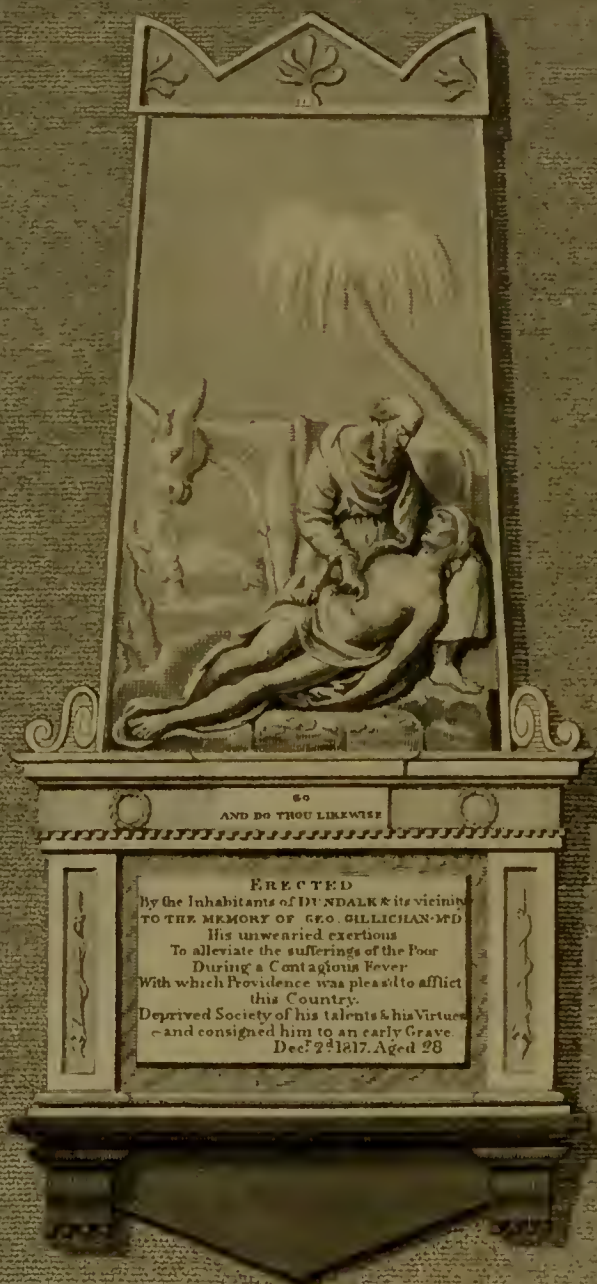




I 7.49

R55437

AN ACCOUNT OF THE FEVER
LATELY EPIDEMICAL IN IRELAND.



Drawn and Engraved by Breckinridge & Co. Dublin

See P. 102 Vol. 1.

AN ACCOUNT
OF THE
RISE, PROGRESS, AND DECLINE
OF
THE FEVER
LATELY EPIDEMICAL IN IRELAND,
TOGETHER WITH
COMMUNICATIONS
FROM PHYSICIANS IN THE PROVINCES,
AND
VARIOUS OFFICIAL DOCUMENTS.

BY F. BARKER, M. D.

PROFESSOR OF CHEMISTRY IN TRINITY COLLEGE DUBLIN,
HONORARY FELLOW OF THE KING AND QUEEN'S COLLEGE
OF PHYSICIANS, PHYSICIAN TO THE FEVER HOS-
PITAL IN CORK-STREET, SECRETARY TO
THE GENERAL BOARD OF HEALTH
IN IRELAND, &c.

AND BY

J. CHEYNE, M. D. F. R. S. Ed.

PHYSICIAN GENERAL TO HIS MAJESTY'S ARMY IN IRELAND,
MEMBER OF THE ROYAL IRISH ACADEMY, OF THE
ROYAL MEDICAL SOCIETY OF COPENHAGEN, &c.

VOL. I.

LONDON:

PRINTED FOR BALDWIN, CRADOCK, AND JOY;
AND HODGES AND M^cARTHUR,

DUBLIN.

1821.

LIBRARY
COLL. REC.

1890

1890

DEDICATION.

TO HIS EXCELLENCY

CHARLES CHETWYND, EARL TALBOT,

LORD LIEUTENANT GENERAL

AND

GENERAL GOVERNOR OF IRELAND.

MY LORD,

THE Epidemic Disease, which is the subject of this Work, had commenced its ravages before your Excellency became Chief Governor of Ireland, but it was under your auspices that active measures were adopted for allaying the calamity, and relieving the indigent sufferers under that awful visitation of Providence,

In consequence of your Excellency's humane interposition, means of obviating the evil were brought into operation, more systematical and comprehensive than any which

these countries have hitherto witnessed, and the effects have been such, as to make it proper that the particulars of the conjuncture should be preserved from oblivion.

As the record of an event so remarkable will probably be referred to, on future occasions of a like melancholy nature, justice as well as gratitude demands, that that record should as far as possible testify, what the public owes to your Excellency, both on account of the plan which was adopted, and for the beneficent zeal with which all the necessary aids continued to be afforded.

It was therefore wished to inscribe this Work to your Excellency, and your kind acquiescence in that wish is most respectfully, and gratefully acknowledged by

YOUR EXCELLENCY'S

MOST FAITHFUL AND

OBEDIENT SERVANTS,

F. BARKER,

J. CHEYNE.

PREFACE.

THE Epidemic Fever, which has of late years prevailed in almost every part of the United Kingdom, has been a subject of much attention, and has given rise to various publications descriptive of its nature and progress; but no where has it excited more general anxiety than in Ireland, from its frequency, the extraordinary distress which it occasioned, and from the efforts which were employed to interrupt its progress.

When the existence of this public calamity became manifest in Ireland, the Editors of these volumes were Physicians to extensive Fever Hospitals in Dublin, and their duty, as well as their habits of inquiry, led them to pay particular attention to fever, then so unusually prevalent; their opportunities, as observers, were enlarged when a Central Committee of Health was formed

in this city, of which body they became members by the recommendation of the Governors of the Hospitals with which they were connected; and their field of observation was further extended when, in the beginning of the year 1819, in obedience to the commands of the Lord Lieutenant, they undertook the inspection of Munster and Leinster, in order to ascertain the state of the public health in these Provinces. Thus, being placed in circumstances favourable to collecting information, they conceived the design of this Work.

On application to Government for such official papers as were illustrative of their subject, their request was at once granted, and the Editors obtained possession of the correspondence of the Fever Committee relative to applications made to Government from those districts, in which Contagious Fever most prevailed; of the correspondence of Mr. Secretary Grant with the Governors of Fever Hospitals and Dispensaries in and near Dublin, and of the proceedings of the Central Committee of Health. From this collection of public papers, being duly authorized, they have selected many valuable documents, with which their work is enriched. In addition to

these sources of information, they obtained from the Editors of the Dublin Hospital Reports, &c. numerous answers to the inquiries which these gentlemen circulated through this country in the years 1817 and 1818, relative to the rise, progress, and medical treatment of the Fever. They were also favoured by Dr. Renny, Director General of Military Hospitals, with the reports, from the commencement to the termination of the epidemic, which had been regularly made to him by the Officers of the Medical Staff of Ireland under his orders, relative to the health of the public in their respective districts, as well as with the returns of the sick of the army during the same period. Moreover, various letters written to Dr. Perceval by his correspondents in the country, descriptive alike of the character of the fever and the sufferings of the poor, were by that eminent physician transferred to the Editors of this work.

They have further to acknowledge their obligation to the Medical Inspector of Conaught, Dr. Crampton, who at their request, revised his valuable Report on the State of Disease in that Province. The same kind office was performed for them by the Medical Inspector of Uister, the late

Dr. James Clarke, whose early death will long be regretted by the profession to which he was an ornament.

Resolving as much as in their power, to exclude all speculative matter, the Editors have confined themselves to a statement of facts, and of deductions which, they trust, no attentive and unprejudiced observer, enjoying advantages similar to those which they possessed, can call in question or dispute, and to an enumeration of such plans only as were the bases of measures adopted either by Government or communities of the people ; their sole object being to present a plain record of all the more remarkable circumstances connected with the origin, diffusion, and decline of the Epidemic Fever in Ireland.

The description of a disease is too often influenced by the opinions which the writer may have formed of its nature. Thus an observer who considers fever a disease of spasm or debility, will sometimes overlook those symptoms, which arise from organic inflammation or congestion ; whilst the physician who maintains that fever and inflammation are convertible terms, will be inclined to disregard the early exhaustion of nervous or

sensorial power, which seems to have nothing in common with the commencement of an inflammatory disease. As the Editors expected that the accounts of this Epidemic Fever given by those physicians who studied in the school of Cullen, and who are still influenced by his doctrines, would differ from the accounts derived from those medical practitioners now established in many parts of Ireland, who having studied disease chiefly in warm climates, have founded their opinions of fever in general upon their knowledge of its intertropical forms; it may be easily conceived that they derived no small satisfaction from the agreement which existed not only in the descriptions of a great majority of their correspondents, but also in their modes of practice.

With respect to the 2d and 3d Sections of this Work the Editors have to remark, that these contain a mass of practical information, unprecedented in its kind, collected from distinct and independent sources. They trust that this portion of the Work will appear to others as it does to them, to afford a decisive proof of the extent of liberal information possessed by the medical profession in this country; an opinion

which will the more readily be acquiesced in, when it is understood that the most ingenious and elaborate papers were not always selected for publication, but rather such as seemed best adapted to convey the sentiments of the majority of their correspondents. The Editors have in their possession many excellent papers relating to the Epidemic, which do not appear in this Work; nevertheless the information derived from this source has been of great value, as it has furnished the Editors with the chief details from which they have composed the medical accounts of fever as it appeared in the different provinces.

The state of the public health of late years, has induced his Excellency the Lord Lieutenant of Ireland to form a GENERAL BOARD OF HEALTH in this country, the want of which had been a subject of surprize to foreign physicians, and of regret to those professional persons at home with whom the public health is an object of consideration. In the hope that this act of the Irish Government will be imitated in other parts of his Majesty's Dominions, the Editors have annexed to the Official Documents which they have selected for publication, the warrant of the Lord Lieutenant authorizing the formation of a Board of Health, and a copy of "the Rules and Regulations for

its guidance," as communicated to the Board by Mr. Secretary Grant. The Editors have here collected a body of information relative to Contagious Fever, as well as to the means which were employed by the upper ranks, aided by a humane and enlightened Government, to alleviate the distress thence arising. The prevention of Contagious Fever must ever be a primary object of Medical Police. To the Board of Health, therefore, these volumes may be offered as a digested work, which will tend to abridge its labours.

TABLE OF CONTENTS.

VOL. I.

SECTION I.—PART I.

	PAGE
Historical Sketch of the Fevers which were epidemic in Ireland during the last and commencement of the present century	1

SECTION I.—PART II.

Historical Sketch of the Fever which was epidemic in Ireland during the years 1817, 1818, and 1819	21
--	----

SECTION II.—PART I.

Communications from Physicians in the Provinces, relative to the Epidemic Fever of 1817, 1818, and 1819	147
Communications from Munster	<i>ib.</i>
Reply from Dr. Lyne of Tralee	<i>ib.</i>
Letter from Dr. King of Tralee	174
Letter from the Rev. S. Grady of Carrick-on-Suir	179

	PAGE
Medical Report of the Fever Hospital of Waterford, by Dr. Bracken	182
Letter from Dr. Hallaran of Cork	281
Observations on the Medical Topography of Cork, as connected with the late Epidemic Fever, by Dr. Milner Barry	285

SECTION II.—PART. II.

Communications from Coughaught	299
A brief account of the Epidemic Fever as it appear- ed in the County of Roscommon, &c. by Sir Tho- mas Moriarty, M. D.	299
Reply from Mr. Brady of Carrick-on-Shannon .	310
Reply from Dr. Verdon of Boyle	319
Reply from Dr. Faussett of Ballina	327
Reply from Dr. Macartney of Monivae	335

SECTION II.—PART III.

Communications from Ulster	341
Reply from Dr. Ryan of Armagh	<i>id.</i>
Second reply from Do.	346
Reply from Dr. Black of Newry	353
Reply from Dr. Young of Ballymena	360
An account of the Epidemic Fever as it appeared in Cavan, by Dr. Murray	368

SECTION II.—PART IV.

Communications from Leinster	
--	--

	PAGE
Letter from Dr. Burke of Dundrum	384
Reply from Dr. Davis of Ballytore	387
Reply from Dr. De Renzy of Carnew	391
Medical Report of the Kilkenny Fever Hospital, by Dr. E. G. Ryan	398

SECTION III.—PART I.

Description of the principal symptoms and mode of treatment of the Epidemic Fever of 1817, 1818, and 1819, &c.	417
Medical account of Fever as it appeared in Munster	417

SECTION III.—PART II.

Medical account of Fever as it appeared in Conaught	451
---	-----

SECTION III.—PART III.

Medical account of Fever as it appeared in Ulster	460
---	-----

SECTION III.—PART IV.

Medical account of Fever as it appeared in Leinster	470
---	-----



SECTION I.—PART I.

AN HISTORICAL SKETCH OF THE FEVERS WHICH WERE
EPIDEMICAL IN IRELAND DURING THE LAST AND
COMMENCEMENT OF THE PRESENT CENTURY.

IT is probable that continued fever existed in this island long before the era of authentic medical record. Were we to hazard a conjecture respecting the plagues, as they were called, which accompanied the two great civil wars in Ireland, that in Queen Elizabeth's time, and that which commenced in 1641, it would be, that those were not, strictly speaking, plagues, but epidemic fevers, such as have lately prevailed.

Boate,* who derived his information from his brother, Dr. Boate, Physician General to the English forces in Ireland about the middle of the 17th century, observes, that "the plague which did so often and so cruelly infect England, was wonderfully rare in Ireland," whilst he describes the epidemic fever of the latter kingdom as "common to the natives, and to those who went thither from other countries, as being commonly attended with great pain in the head, and in all the bones; great weakness, thirst, ravings, and restlessness, but no very great or constant heat; as hard to be cured, and as having in some years an extraordinary and pestilent malignity;" a description corresponding in most respects with the continued fever, which twice within these last twenty years, has proved such a scourge to this kingdom.

In the early part of the last century much attention was paid to the epidemic diseases of Ireland, and full and satisfactory information on that subject, but more particularly on epidemic fever, has been handed down to us in the writings of Rogers, O'Connell, and Butty. These works possess a permanent interest, and excite a feeling of regret, that the physicians who succeeded these eminent men, by failing to imitate so laudable an example, should have left a blank in the medical history of their country, which it is no longer possible to supply.

The first epidemic which Rogers witnessed was in the year 1708, in the winter of which, the severest that happened after 1683-4,† the epidemic attained its height. He seems not to have known how long it had existed, but it declined for a year or two and then disappeared. In the winter and spring of 1708 and 9, a severe influenza

* Natural History of Ireland.

† Webster, vol. 1. p. 353.

prevailed all over Europe, which continued till the month of June 1709. Similar in all respects to the epidemic fever of 1708 was that which commenced in 1718, and continuing during the years 1719, 20, and 21; raged in the latter parts of those years, and was contemporary with the last plague at Marseilles. After the year 1721, there was again an interval of good health in Ireland, so complete, that scarcely a case of fever was to be met with; this continued till the year 1728, when, as we learn from Boulter's Letters, there had been three bad harvests in succession. Oatmeal, the chief food of the poor in the North, rose to an extravagant price: in the South, the scarcity was so severely felt, that on the 26th of February there was a great rising of the populace of Cork, who threatened to pull down the Mayor's house, and would probably have carried their threat into execution had they not been prevented by a military force.* There were also tumults of the same kind at Limerick, Clonmel, and Waterford, to prevent corn bought for the use of the North from being sent thither; whilst in Dublin numbers of housekeepers, deprived of employment, were obliged to beg for bread in the streets.† From 1728, fever gained ground, and continued to be epidemical until 1732, forming that which Rogers has described as the endemical epidemic of 1731; the term *endemical*, however, is erroneous, as the disease was not confined to Cork, but existed in other parts of Ireland also.

There are some circumstances in the epidemic of 1731 which are worthy of our attention.—1st. The confident assertion made by Rogers, that the three epidemics of

B 2

* Smith's Cork.

† Wakefield's Ireland, vol. ii. p. G.

1708, 1720, and 1731, described in his work,* were not successions of different fevers, but the same disease which had made its appearance at three several times;—that during the intervals, the fire never was extinguished, but lay deceitfully buried under its embers to blaze out again with violence proportioned to the fuel which its concurring causes afforded; that, in short, it was the same contagion, at one time more active, at another less so, “just as the alterations of the seasons might either promote or diminish its production.” The 2d point, which must strike the professional reader, is the resemblance that may be traced between the fever which was epidemical in 1731 and that of 1817-18. The symptoms most insisted upon in the epidemic of 1731 are the determination which generally took place to the head, ending in delirium, stupor, or coma—the very frequent affection of the chest, the pale and limpid urine, the state of the pulse not much moved from its healthy standard, and the universal efflorescence of petechiæ; symptoms of frequent occurrence in 1817-18. Nay, the agreement between the two epidemics is shown as completely in some peculiarities which attended both, as in this resemblance between their more remarkable features. Rogers tells us, that the more early the petechiæ appeared, the more fresh they were in colour, and the longer they continued out the better. We appeal to those physicians who have paid most attention to the poor in our hospitals, whether this remark was not equally applicable to the fever during the early part of the late epidemic. We have, moreover, repeatedly observed the great tendency in the beginning of the disease to sweats, which, as Rogers says “were colliquative and symptomatic, and in no ways at that time to be encouraged.” 3dly. The same acute observer describes the epidemic of 1731, and the two former epidemics also as

* Essay on Epidemic Diseases, &c.

being accompanied with a small-pox of a malignant kind. And lastly, we are told, “that the years most signal for epidemic fevers were productive of cold and moist summers, and of warm and moist winters.”

In the winter of 1739-40 an intense frost, attended with a high wind at S.E. and E. intolerably piercing, set in on the 27th of December, and continued with little interruption till the middle of February. The winter of the hard frost is still often alluded to by those who mark the progress of time by a reference to striking events, rather than by the numerical succession of years. The havoc produced by this calamitous frost is described by O'Connell,* in the following passage: Exeunte anno 1739 accessit hyems frigidissima, atrocissimo gelu ad veris usque tempora perdurante insignita. Ab horrendo hoc et infando sicco gelu, non tantum magna pecorum omnium strages, sed plantarum, vegetabiliumque quarumlibet miseranda lues, et calamitosa putredo suboriebantur. Ipsæ namque cæli volucres aliaque in diætâ humanam accommodata animalia, præ intenso frigidæ tempestatis rigore, denso agmine perierunt; et, quod adhuc funestorum malorum cumulum multo gravius adauxit, radices istæ tuberosæ (battata vulgo dictæ) nutrimentum fere constans et integrum plebeculæ, et inferiorum hujus regni incolarum, á dirissimo hoc et diuturno gelu penitus putrescebant. “The river Lee,” says Smith, “was frozen up, toward the end of the year 1739, by the hardest frost in the memory of man; after which a great scarcity followed, so that wheat sold the following summer for £2. 2s. the kilderkin; but in two years after, viz. in 1743, it fell to 6s. 6d. the kilderkin, or twenty stone. Great numbers of the poor perished during the summer of 1741 and 1742, although all ranks of the people distinguished themselves by a liberal charity on this melancholy occasion; and great numbers were daily fed at a public mess in this city.”

* *Morborum acutorum et chronicorum quorundam, Observationes.*

In the autumn of 1740, which was unusually frosty, with a continued prevalence of N. and E. winds, fever, which had been frequent, became epidemical; it did not cease in the winter, and increased most alarmingly in the spring and summer of 1741. This epidemic raged through the provinces of Munster, Leinster, and Ulster, and probably in Conanght also, as it is stated in Webster's work on epidemic diseases, that the fever in Galway in 1740 fell little short of the plague. The mortality, however, was greater in Munster, where the poor were said to be more scantily supplied with provisions, than in the other provinces. From the poor the disease spread to the rich, and it was computed, though probably, says Rutty, with exaggeration, that one-fifth part of the inhabitants died. The more moderate computation of O'Connell, who supposes that 80,000 persons died in Ireland of the epidemic fever, is perhaps nearer the truth.

From a comparison of the different accounts of this epidemic we are led to conclude, that the fever was also of the same species with that which prevailed in 1817-19 although the resemblance is not quite so striking as between the latter and the epidemic of 1731. The first attack was commonly mild and deceitful, so that it was thought to be merely a common cold; the pulse was not greatly accelerated during the first six or seven days; in most of the patients there was a measly or petechial efflorescence; the more advanced stages of the disease were attended with watching, delirium, or even phrenzy, followed by coma and subsultus; symptomatic sweats, which produced no relief, were also observed in this fever; the "poor, abandoned," to adopt the expression of Rutty, "to the use of whey and God's good providence, recovered, while those who had generous cordials and great plenty of sack, perished."

But what seems most curious in point of coincidence, is the course of the *short* fevers in both epidemics. In the summer of 1818, when the fevers terminated on the fifth or seventh day in profuse perspiration, the tendency to relapse was remarkable. In 1741, in the summer months, "it seems not unworthy of notice," says Rutty, "that there was frequently a fever, altogether without the malignity of the disease already described, of six or seven days duration, terminating in a critical sweat, as did the other also frequently; but in this, the patients were subject to a relapse, even to a third or fourth time, and yet recovered." Three things are further observable in this great epidemic, namely, that in 1740, in which year it began, the mortality caused by the small pox in Dublin was sometimes double, sometimes triple that of fever; and it is notorious, that in many parts of Ireland the mortality from small pox was greater in 1817 than during any year since the cow-pock inoculation was introduced.—2dly. An epidemic catarrh appeared early in the summer of 1743, a disease which was remarked in the end of spring 1819; and lastly, the ulcerated sore throat, described by Fothergill, prevailed in Ireland in autumn and winter, and was very malignant and fatal to children, particularly in the country: this is the more worthy of observation, as some cases of sore throat appeared in June and July 1819, a considerable proportion of which had a fatal termination, and Scarlatina now (October 1819) frequently occurs among children; hence it seems not improbable that the more closely we examine the progress of epidemics, the more uniformity we shall discover in the order of their succession.

Rutty,* one of the most faithful annalists of disease, records a remarkable increase of fever in the end of 1762. The period which intervened between that year

* History of the weather, &c.

and 1742, was without any great prevalence of sickness. Dr. Sims, in his observations on epidemical diseases, describes a fever, which began in the summer of 1771, raged with violence as the autumn advanced, continued through a severe winter, and in its course completed the circle of a year. It claimed, says Dr. Sims, the prerogative of the plague, almost all other diseases vanishing from before its sovereign presence. It pursued a regular career from east to west, as did all epidemics which Dr. Sims had seen. This, resembled continued fever of the usual form, one symptom excepted, namely, a tremor of the whole body less considerable than the shaking fit of an ague, which we have often seen during the last two or three years, but not as a pathognomonic of this fever; in other respects there was nothing particular in the disease which Dr. Sims describes; in the middling ranks, the pulse was not much quickened at first, the pains in the back and loins disappeared as headach became more violent, and the headach abated as delirium came on. Profuse sweats instead of bringing relief tended to depress the pulse: about the ninth or eleventh day the distemper was at its height, and a tremulous motion of the wrists encreased till it ended in the universal agitation above mentioned; delirium was uninterrupted, the countenance sunk, the sweats were clammy and foetid, and the petechiæ were almost black. One observation made by Dr. Sims we shall quote, on account of its agreement with what we have often remarked of late. "The disease here described," says this author, "showed itself among the middle ranks of the people, whose fortune not exempting them from industry, they are exposed to many irregularities in their manner of life: who use much flesh in their diet, and whose prevailing foible is an indulgence in spirituous liquors.—Among the poorer sort, whose food is chiefly vegetables, the disorder during the summer and harvest proceeded to a much greater length, but did not show

such symptoms of malignity, the uncomfortableness of their houses, and want of all heating medicines, assisting to put a friendly stop to its increase.”

Persons advanced in years still speak of the havoc which disease produced in the year after the hard frost, but no recollection is preserved of the epidemic described by Dr. Sims, although it occurred thirty years later ; it wanted the concurrence of public calamity, of famine, or intestine war, to give it the stamp which belongs to the great epidemics of 1740, 1800, and 1817.

That susceptibility of disease, whether depending on a peculiar state of the atmosphere or of the community, which is favourable to the extension of epidemic fevers, seems to have three stages ; one of gradual increase, one of full growth, and one of decline :—according to Rogers and O’Connell, the epidemic fever which commenced in 1718, was not over before the year 1722 ;—1719 and 1720 were the years of its acmè, and in like manner of other epidemics. If, during the existence of an epidemic period, men’s bodies are enfeebled by want, or their minds weakened by public calamity, then disease will rage with proportionate malignity.

A careful examination of some documents in our possession, which elucidate the state of the public health at the end of the last and beginning of this century, shows that an epidemic constitution commenced about 1797, which did not terminate until 1803 : 1800 and 1801, was the period of its greatest height. The documents we allude to are, the monthly returns and reports made to Government by the Army Medical Board of Ireland, the proceedings of the Governors of the House of Industry, and the records of the Fever Hospital at Waterford.

In the latter part of the last century, the health of the army was a better criterion of the health of the community at large than it is now. The troops were then more generally in billets or temporary barracks, and consequently mixed more with the lower orders, and more readily contracted all contagious diseases which were epidemical than at present.

The health of the army was every where good at the latter end of 1796, in proof of which we may adduce one of many similar facts, namely, that there were only six acute cases in the general hospital at Laughlinstown camp, within seven miles of Dublin, on the 20th of November, 1796; in which encampment there were at that time upwards of two thousand effective men, this being probably not more than a third or fourth part of the usual average number of acute diseases, at that season, in such a force. But from the appearance of a hostile fleet on the coast, the quarters of most of the regiments stationed in the southern, western, and central districts of the kingdom were necessarily changed, long and fatiguing marches at an inclement season of the year, and frequent change of quarters, were the consequence, during the months of December 1796 and of January 1797, by which, the number of acute diseases was considerably increased; continued fever was becoming rather more prevalent among the poor in the towns, and in the course of the summer it appeared among the troops in several cantonments.

In the month of May a fever arose in the Northampton Fencible Regiment; the disease seemed to have been contracted in Armagh in the preceding February or March, and a low fever prevailed among the soldiers of the Limerick Regiment of Militia at Waterford, and of the Antrim Regiment in Dublin, in which cities contagious fevers are never extinct.

The year 1797 was, upon the whole, a healthy one in Ireland; but early in the next eventful year a considerable increase of fever and dysentery was remarked in the southern and western districts of the kingdom, which was attributed principally to the uncommon quantity of rain that fell during the greater part of the summer and autumn of 1797, and which prevented the peasantry from laying in the usual supply of fuel:—these diseases were communicated to the troops, and particularly to the regiments stationed at Bandon, to the Galway Militia stationed at Charles Fort, the Louth at Clonmell, the Westmeath at Cloghnakilty, and the Roxburgh Cavalry at Ballinrobe; and during the whole of the spring of 1798 the Downshire Regiment of Militia, quartered at Loughrea, suffered extensively from mild fever and diarrhœa.

The contest which took place during that summer between the king's troops and the insurgents, in various parts of Ireland, so far from being injurious to the health of the former, seemed to have a beneficial effect. In July 1798 the health of the army is stated, by the Director General of Military Hospitals, to be remarkably good in every district of the kingdom: the weather was so favourable that the regiments upon service underwent considerable fatigue during the summer, and often slept in the open air with no disadvantage to their general health.

Nothing can be conceived more distressing than the state of society in Ireland at this period. The upper and lower classes having, generally speaking, espoused opposite political opinions, were arrayed against each other, and all confidence between them was destroyed; the latter were extensively engaged in a rebellion, in which many fell, and many were driven from their houses, so that from the

complete discomfiture which they sustained, the death of their relatives and friends, a sense of guilt and an apprehension of punishment, their spirits were broken, and their usual occupations neglected. Many of the upper ranks—such as were timid and feeble, and not a few who were disaffected to the government, left the kingdom; and many females, justly apprehensive of the outrages which had been committed in those places where the authority of the laws was suspended, naturally sought an asylum in a country where order was established on a better foundation. Thus the management of large estates fell into the hands of agents who had little knowledge of the tenantry, no direct interest in their welfare, and who felt no pleasure in the appearance of prosperity and comfort, which seldom fail to delight the eye of a proprietor: hence many of the poor on these estates, in addition to their other misfortunes, were deprived of employment, and what was even worse, all felt that they no longer possessed the sympathy of their superiors: there are many parts of Ireland in which twelve or fifteen country gentlemen resided in 1797, within visiting distance of each other, in which there are not now more than three or four.

Such calamities have generally in Ireland been favourable to the extension of disease, and accordingly in the latter end of 1798 fever began to spread both among the inhabitants and the troops. The regiments of English Militia who volunteered their services in Ireland, were great sufferers from that disease. It is well known that regiments composed of English and Scots soldiers have frequently suffered from fever or dysentery to a considerable extent, during the greater part of their first year's residence in Ireland; but had not fever become epidemical among the natives, it is more than probable that these corps would not have been attacked so frequently by that disease. The Buckingham Regiment of Militia, quartered

in the Palatine square of the Royal barracks of Dublin, were affected with a fever of a malignant and contagious nature, by which they lost 13 men in October, 13 in November and 15 in December; and in November, December and January, the Warwick regiment suffered greatly in the same barrack. These, and some other corps, chiefly of English Militia, were very sickly during spring. In Carrick-on-Suir, Fermoy, Clonmell, Waterford and Cork, the Dorset, Herefordshire, Lancashire, South Devon and Tyrone regiments of Militia suffered from fever. The Herefordshire regiment, 833 strong, lost 47 men between the 13th of September 1798 and 27th of June 1799; this unusual mortality, being at the annual rate of one in fourteen of the effective men of the regiment, was occasioned by a fever of a malignant kind, which broke out at Fermoy in November 1798, and was aggravated by defective barrack accommodation. The Coldstream guards, stationed at Limerick, were also sickly, and the 92d regiment at Athlone; in the latter corps, fever was complicated with pneumonia or dysentery, and the proportion of deaths to recoveries was so great, that the Physician General, Dr. Harvey, was sent thither to ascertain the nature of the fever, and suggest the best means of subduing it. The Northamptonshire fencible regiment, quartered in Carrick-on-Shannon, again suffered from a contagious fever of an alarming nature: in this and most other instances the troops were infected by the inhabitants of the towns in which they were stationed.

As the season advanced, by an unwearied attention to the discipline and accommodation of the army, by those regiments which were most sickly being seasoned to the climate and prevailing diseases, and by the exertions of a highly meritorious medical staff, skillfully brought to bear upon all those points at which disease seemed ready to spring up, thereby preventing an evil which it is

always difficult, and sometimes impossible to remedy, the health of the army improved so much, that in the month July 1799 there was not a single regiment in Ireland in a sickly state; and probably the army would have remained healthy, had not continued rains, attended with an unusual degree of cold, occasioned an almost general deficiency in the crops, and a consequent failure of the usual supply of nourishment to the poor, already suffering under many privations. Those who paid most attention to the health of the community* expressed their apprehension of universal sickness and greater mortality all over the kingdom, from so many circumstances conspiring to encourage and support contagious diseases. Nor were their fears ill founded; for in the month of April 1800, a malignant fever appeared in a majority of the regiments which composed the garrison of Dublin, and many of the corps in the south of Ireland lost a great number of their men, chiefly by fever, as will be evident from the following table of the mortality of some regiments which embarked at the Cove of Cork in the month of June, 1800, in which a great proportion of the deaths was caused by that disease.

Regiments.	Effective strength.	Stations.	Period.	Deaths.
1st Batt.			In 3 months	
20th Regt.	826	Cork,	21 days,	30
2d Batt. do.	762	Cork,	Ditto.	35
36th Regt.	1181	Fermoy,	Ditto.	28
82d Regt.	851	Bandon } & Fermoy }	Ditto.	30
Total	2620		In 3 months 21 days.	123

* Report of the Medical Board, &c.

The state of the poor in the principal towns in Ireland in the years 1799, 1800, 1, and 2, was wretched in the extreme. In Waterford the extent of fever in 1799 led the humane and public spirited inhabitants of that city to establish a fever hospital for the accommodation of the poor. In a report of a plan for establishing a House of Recovery in Waterford it is stated, that the number of persons annually suffering from contagious fever in that city, who depend on charity alone for medical assistance, amounted to 1500. The miserable condition of the poor in the year 1800, is evinced by the following extract, taken from an appeal made in that year to the more opulent inhabitants of Waterford by the managers of the Fever Hospital, which was established in 1799. "The necessity for supporting the House of Recovery will be evident from a consideration of the tendency which scarcity of provisions must have to spread and to perpetuate infection. The immediate effects of want of food are weakness of body, and depression of mind: causes which contribute in an eminent degree to the production and extension of contagious fever. But a still more powerful cause exists in the necessity which the poor are under of pawning their clothes for daily sustenance, which occasions increase of filth, exposure to cold, and the crowding of several members of a family in the same bed. That the latter source of contagion must exist at present will be evident from the melancholy information which we have lately received—that the quantity of clothes deposited with a reputable pawnbroker of this city, exceeds any thing of the kind hitherto known; and that the sets of bedding alone, applied in the same manner, for the relief of the most urgent necessity, does not fall short of the enormous number of seventy in one month." The poor of Waterford suffered during the winter and spring of 1799 and 1800, not merely from fever, but also from Small pox and Dysentery. In one lane in Waterford,

Donagh-a-gow's lane, nine persons died of Dysentery between October 1799 and March 1800; and in the summer of 1800, Scarlatina was prevalent also, and often fatal. It is not unworthy of observation that, in June 1800, when Scarlatina was epidemical, most of the fever patients in the House of Recovery in Waterford had a soreness of the fauces,—as it were a red band of a quarter of an inch in breadth, extending along the velum pendulum and uvula; and some had an appearance of blisters on those parts. Scarlatina suddenly disappeared in Waterford in September on the setting in of cold and wet weather.

With respect to the distress experienced by the inhabitants of Cork in 1800, one fact is decisive; namely, that not less than 4000 cases of fever were entered on the books of the Dispensary in the course of the year, as was ascertained by a distinguished physician of that city; and in Limerick, we are credibly informed, that the distress of the inhabitants during the years 1800 and 1801, was equal to that of 1817 and 1818.

The year 1800 was nearly as unfavourable to the fruits of the earth as 1799. The summer of that year was unusually dry; then followed a short period of uncommon heat: for three weeks or a month the thermometer, when at its greatest height during the day, seldom fell below 70 degrees; cold and wet weather set in about the end of August or beginning of September. Thus a short period of uncommon heat degenerated into an ungenial autumn, yielding in some soils an imperfect produce, whilst in others the failure of the crops was little less complete than in the preceding season; so that notwithstanding bounties were granted on the importation of corn, and the distillation of spirits from grain prohibited, yet the price of bread and potatoes, both of bad quality,

together with that of every other necessary of life, was raised beyond all precedent. Thus the public spirit underwent additional depression, and the further extension of disease followed.

In the autumn and winter of 1800, the inhabitants of this kingdom universally suffered from a contagious fever, in which the troops still continued to participate. In February 1801, the Director General of Military Hospitals reported to Government, "that the disorder with which the troops have of late been affected has been communicated by contagion, and that a fever of a dangerous and frequently fatal kind very generally prevails throughout every part of Ireland, which is ascribable to a deficiency in the usual quantity of food, a calamity which has for some time been heavily felt by the poor."

In Dublin, those articles of diet on which the poor chiefly subsist, were no longer permitted by persons in the upper ranks to be used in their families; this was the case with potatoes; bread was portioned out sparingly; few persons exceeded a quartern loaf in the week, and pastry was almost universally disused. Establishments were formed by the charitable for supplying the poor with food at a low rate; four of these at opposite quarters of the city, under the management of the Governors of the House of Industry, were supported by Government, for the purpose of supplying nutritious soup to all, at the rate of a halfpenny for the quart: and this example was followed in the cities and towns all over Ireland, and also by many gentlemen resident in the country. Indeed it seems probable, that had not the poor been assisted in this manner many of them would have perished, it being the opinion of those professional men who witnessed both epidemics,

that there was almost as much misery in 1800 and 1801, as in 1817 and 1818.

Previously to the opening of the Fever Hospital in Cork-street, and the Hardwicke Fever Hospital, the wards of the House of Industry were the chief resource of the destitute sick in Dublin, and more especially of such as laboured under fever. The following is a return of the mortality in the House of Industry during the years 1799, 1800, 1801, 1802 :

1799	-	-	627
1800	-	-	1315
1801	-	-	1353
1802	-	-	384

Fever was in former times, from the nature of the institution, an endemic disease in the House of Industry ; but if 384, the number of deaths in the year 1802, when the epidemic had subsided, be considered as the usual annual mortality in that institution about the period in question, it follows, that at least a thousand persons, of the lowest rank, died of fever in the House of Industry, in each of the years 1800 and 1801, a proof of the distress of the poor in Dublin, which needs no comment ; thus it is manifest that nearly as many persons died in the House of Industry, in these two years, as in all the hospitals of Dublin, during the two years included between the 1st of September 1817 and the 1st of September 1819.

The existence of fever in 1801 is further confirmed by the state of the army. In Belfast, for example, a malignant fever prevailed among the married men of the South Mayo and Londonderry regiments of militia : it is

scarcely necessary to say, that married soldiers, if they are men of good conduct, and marry with the approbation of their commanding officer, are permitted to live out of barracks with their families; and it is obvious that their lodgings must be in the houses of the poor, whence their disease was probably derived. In August the garrison of Dublin suffered greatly from petechial fever, which very generally prevailed among all ranks in the metropolis and its vicinity.

The epidemic which had now reached its height, shortly after began to decline, but not before the good effects of an unusually abundant harvest, in again furnishing provisions of all kinds to the poor at a moderate rate, had been felt. That the epidemic constitution was undergoing a change might be inferred from the frequent occurrence of other febrile diseases in September, about the end of which month Dysentery began to appear. This disease was observed in many parts of the kingdom in October, and in November its symptoms were severe. The disease was pretty generally attributed to the change of temperature in the atmosphere, and to the fall of rain after a long continuance of hot dry weather. In November Scarlatina, with a malignant sore throat, prevailed to a great extent among all ranks and descriptions of people in Ireland, and proved fatal, particularly among the lower orders; at this time also Ophthalmia was a very prevalent disease.

In the spring of 1802 the epidemic was on the decline; and about the end of summer the improvement of the public health became still more evident, when, as confirmed by the report of the Army Medical Board, the troops were in remarkably good health in every part of Ireland.*

* Monthly Return of the Army Medical Board for November 1802.

In the latter end of December and in January* Catarrh began to prevail, and, as is well known, was universally epidemical in the spring and early part of the summer of 1803.—This Influenza affected the inhabitants of Ireland of all ages, classes and constitutions: it declined in the month of June, and entirely disappeared in July; and thus the disposition to epidemic disease, which began in the latter end of 1796, or beginning of 1797, terminated, and many succeeding years were comparatively healthy.

It is the opinion of physicians in Dublin, Cork, Limerick, and Waterford, that the fever which prevailed in 1801 was a disease of the same species with that which was lately epidemical. Dr. Milner Barry of Cork thinks, that the type of the fever of 1801 was more typhoid, and less inflammatory than that lately prevalent. A physician in Limerick, who has watched the course of fever in that city for 20 years, Dr. Geary, employs nearly the same form of expression, saying, that the type of the fever in 1801 resembled that of the epidemic of 1817-18, only that it was less inflammatory. Certain it is, that the fever in 1800 and 1801, very generally terminated on the 5th or 7th day by perspiration; that the disease was then very liable to recur; that the poor were the chief sufferers by it; and that it was much more fatal amongst the middling and upper classes in proportion to the number attacked.

* Monthly Return of the Army Medical Board for January 1803.

SECTION I.—PART II.

HISTORICAL SKETCH OF THE FEVER WHICH WAS EPIDEMICAL IN IRELAND, DURING THE YEARS 1817, 1818, AND 1819.

THE extraordinary prevalence of fever in the years 1800 and 1801, and the sufferings experienced by the poor from this cause, had attracted the attention of benevolent persons in various parts of Ireland. Incited by the example of Chester and Manchester, where hospitals for the reception of fever patients, in connexion with a general preventive system, had been established, the inhabitants of some of the principal cities of this country, including Dublin, Cork, Waterford, Limerick, and Kilkenny, set on foot establishments for the prevention of fever, by removal of the patient from his dwelling to hospital, and by a system of cleansing extended to the persons and rooms of the inhabitants. In these hospitals a registry has been kept of the number of patients admitted annually, and from this cause it happens, that information more exact and satisfactory can now be supplied, than in preceding times was attainable.—Accordingly it is proved, by reference to such registries, that during several years fever prevailed with its usual frequency; nor was any remarkable

increase observable, till the year 1810, at which time the number of such hospital patients was found to augment, by an addition amounting almost to one half of the average number of annual applicants in preceding years; or in the proportion of two to three. From this time the disease continued to advance with little fluctuation, but the increase was gradual until the year 1815, when the applicants to fever hospitals, with the exception of that in Cork, exceeded those of any former period within the hospital records.— In the following year a diminution in the number of sufferers produced a temporary hope that the disease, which from its general prevalence in the preceding year, might be termed epidemical, was again on the decline. But the fallacy of such expectation was soon demonstrated by the events of the latter part of that year, and by those of the succeeding years. Fever then began to extend itself through every part of this country, in a degree exceeding all former example, causing such distress as to call forth every exertion of benevolence and patriotism.

The assertions now advanced will be confirmed by reference to the annexed tabular view; from which it will be evident, that the number of patients admitted to the following hospitals during the years 1817-18, exceeded the number admitted, during two years of any preceding period included in the table, in a proportion greater than that of four to one.

Tabular view of patients admitted to the fever hospitals in Dublin, Cork, Waterford, Limerick, and Kilkenny, from the years 1805, to 1818, both inclusive.

Years.	Hos- pital in Cork- street, Dublin	House of In- dustry, Dublin.	Cork.	Waterford.	Limerick.†	Kilkenny.	Grand Total.
1805	1024	709	200	297	90	69	2389
1806	1264	1276	441	165	86	56	3288
1807	1100	1289	191	166	84	81	2911
1808	1071	1473	232	157	100	96	3129
1809	1051	1176	278	222	109	116	2952
1810	1774	1474	432	410	120	135	4345
1811	1471	1316	646	331	196	153	4113
1812	2265	2006	617	323	146	156	5513
1813	2627	1870	550	252	227	183	5709
1814	2392	2398	845	175	221	236	6267
1815	3780	2451	717	403	394	249	7994
1816	2763	1669	1026	307	659	162	6586
1817	3682	2860	4866†	390	2586	1100	15484
1818	7608	17894*	10,408	2729	4829	1924	45392

* This number comprehends the admissions to Steevens's Hospital within this year.

† These numbers include the admissions to the South Fever Asylum. The total admissions to the Peacock-lane Fever Asylum, from which no monthly returns were obtainable, are divided between the two years, in the proportion of the times during which this hospital remained open in those years.

‡ The admissions to this hospital are those included within the 24th June, of one year, and the 23d June of the year following: they commence with June 24th, 1805. The Square hospital opened on January 11th, 1818, and closed on April 20th, 1819; patients admitted 1697;—at this rate, in 355 days, 1295 patients were admitted.

That certain classes of disease arise suddenly among a people previously healthy, and having increased for a series of months or years, then gradually decline or altogether disappear is well known to every observer. The causes which render sickness at certain times thus epidemical, are also in some instances sufficiently obvious. Thus, when the contagion of the Plague or of Small pox has been introduced into a country where these diseases had not pre-existed, it spreads in every direction, attacking all persons susceptible of infection; the disease then ceases, and the country which has been the subject of such visitation, is spared, until circumstances similar as to susceptibility and contagion again occur. Thus the causes of the decline and cessation of such diseases can be assigned. But why fever, which is at all times present in countries where many or most of the inhabitants must be susceptible of its attacks, should at particular times become epidemical, does not so easily admit of explanation. Some obscurity must therefore be connected with the invasion of the fever lately epidemical in Ireland; and it is only by careful attention to the circumstances which attended its origin, that we can obtain just views on this important subject: and when we consider the injurious effects of epidemic fever; mechanics and labourers rendered burdensome to that society, which they had contributed to support; the heads of families swept off, and their widows and children left destitute; the general increase of poverty and mendicity, added to the ruinous consequences of rendering a large portion of the people the subject of public charity, we must feel the necessity of carefully examining the causes which have been connected with the invasion of this formidable calamity.—We shall, therefore, enter into a detail of the circumstances which both accompanied the origin, and favoured the progress of the late epidemic fever, and thus, although we may not have it in our power to prevent its return, we may con-

tribute, on some future occasion, to avert a portion of its destructive effects, by pointing out those appearances which indicate its approach.

Fever had been more than usually prevalent from the commencement of the year 1810, but its most remarkable increase occurred in the year 1815; and to this period, and the previous and concomitant circumstances, we shall chiefly direct our attention.

The winter, commencing with January 1814, was uncommonly cold; the weather at the beginning of this month set in with great severity. The cold at this time was preceded by a fog of extraordinary extent, density, and duration. In London the fog began on the 27th of Dec. 1813, and lasted for six days. In Dublin it shewed itself in a slight degree on the 27th and 28th of December, but did not attain its greatest density till the 4th of January following. Here, as in England, it was accompanied by a remarkable deposition of hoar frost, and was succeeded by one of the heaviest falls of snow ever remembered in this country, rendering the roads impassable for a considerable time, and not totally disappearing till the latter part of spring. This event might seem of little importance, as no remarkable increase of sickness was the *immediate* consequence of a season so inclement as that of 1814. But the fact deserves notice, inasmuch as severe winters have been often followed by epidemic fever. Thus the fever described by Sydenham, which occurred in the year 1665, and was the precursor of the plague, was preceded by a winter of unusual severity; and the fever which spread over England in 1684, followed an uncommonly severe winter in 1683, in which the cold was greater than was remembered by the oldest person then living. In that winter, Sydenham relates, that the Thames was frozen so as to be capable of bearing booths with merchandise and crowds of people. The

great epidemic fever, which occasioned such unusual distress in the year 1740-41, was preceded by a winter of peculiar severity, recorded, in this country, under the name of the "hard frost," as already mentioned. In like manner, the fever which spread over a large part of Ireland in the year 1800 and 1801, succeeded a severe winter in 1799. These facts point to some connexion between severe winters and the subsequent appearance of epidemic fever. The cause of this connexion it is not easy to assign; but it must be remarked, that in several instances a failure of the crops has followed a winter of unusual severity, occasioned probably by the refrigerating effects of the winter's cold on the earth and its atmosphere, extended in a certain degree to the following spring and summer. A longer continuance or greater intensity of summer heat must be requisite to warm the soil and promote vegetation in proportion to the cold of the preceding winter.

The winter of 1813-14 had been uncommonly severe; that of 1815-16 did not fall short in severity; but particularly so in the early part of 1816, when the cold was very great in these countries. In the month of February 1816, the quicksilver in the thermometer, in many parts of England fell below 0° . Thus at Northampton, on the 9th of February 1816, it fell to -4° , and on the 10th to -2.75° .* In the neighbourhood of London it fell to five degrees below 0° , and during four days of that month it never rose to the freezing point. It has been observed by one of the best informed meteorologists in England, Mr. Howard, that a night on which Fahrenheit's thermometer falls below 0° does not in England occur more than five times in a century. The same degree of cold was observed in England about nineteen years ago. In

* See Meteorological Diary kept at Lord Spencer's.—Quarterly Journal of Science, vol. 1. p. 140.

Ireland it probably occurs still more rarely: we have never witnessed such a descent of the thermometer. The cold in Dublin during the spring of 1816 was not by any means so severe as in England. The lowest degree observed with a thermometer on Six's construction was 20° ;* and we may here observe, that the extremes of temperature are never so great here as in England; and our climate is probably still more equable in the southern and western parts of this country, than in the county of Dublin. But the temperature of that spring was in Ireland very unfavourable to vegetation; nor did the following summer compensate by its warmth for the severity of the preceding season; on the contrary the sun was, in general, obscured by clouds during the months of July, August, and September. It results from direct experiments made with thermometers inserted at various depths in the ground, in a garden in Fifeshire belonging to Mr. Ferguson of Raith, that although frost does not in these climates penetrate the soil at the depth of one foot from the surface, the earth, at much greater depths, varying from one to eight feet, participates in the temperature of the atmosphere; and that at the latter depths the temperature in 1816 was inferior to that of the succeeding year. This must have arisen from diminished temperature of the atmosphere, and absence of the sun's rays; the latter cause chiefly operating to reduce the heat of the soil and give a proportionate check to vegetation. From a registry of the weather, kept in Dublin, it appears that the mean temperature of the months of spring, summer, and autumn, commencing with February, and ending with October of that year, was nearly three degrees and a half below that of the similar preceding period; thus the medium temperature in 1815 was 54.32° , and during the

* On the morning of the 11th February.

† Experiments with similar results had been made in Switzerland by Mr. Ott many years previously. See *Annales de Chimie et de Physique*, t. 8, p. 210.

same time in 1816, it was only 50.9° , the difference amounting to 3.42° . In neighbouring countries similar observations were made. According to those of Mr. Howard, in the neighbourhood of London, the mean temperature of the same months in 1815 was 53.9° ; and in 1816 only 49.9° , the difference amounting to four degrees. In France, the mean temperature of the nine first months of the year 1816 was 3.6° lower than in a similar period of the preceding year; and the month of February in that year at Paris, as in England and Ireland, was more severe than the same month of the years either immediately preceding or subsequent. The mean temperature of the years 1815, 1816, 1817, and 1818, as observed at Paris, were as follows:—in 1815, 50.86° ; in 1816, 48.86° ; in 1817, 50.84° ; in 1818, 52.37° .* In Italy also it appears, from accounts on which we can rely, that the year 1816 had been ungenial, and that the crops had failed. Thus it is proved, that unusual cold prevailed in many parts of Europe. Various accounts concur to show, that the same state of weather extended even to America; and it is highly probable that at this time a lowered temperature existed over the greater portion of the northern hemisphere. In recording all the remarkable circumstances connected with the weather we should not omit, that the cold of these seasons was attributed to the frequency of ice islands in the southern latitudes. Many of these were met by navigators in low latitudes in the Atlantic Ocean, particularly during the summer and autumn of 1816. These cold masses, many of them of great magnitude, were supposed to have contributed to that general refrigeration of the northern hemisphere observed at this period; but their continuing to float southward in the Atlantic, one of them being seen so low as

* See *Annales de Chimie et de Physique*, v. 3, p. 441—v. 6, p. 436, and v. 9, p. 424.

the Bahama islands, during the unusually hot summer of 1818, invalidates the opinion, that the cold of preceding years was connected otherwise than accidentally with their appearance.

The annexed tabular view of the heights of the thermometer in London and Dublin during the last four years, will show that the mean temperature of 1816 was considerably below that of any of the other years; that some of the summer months of 1817 were inferior in temperature to those even of 1816, and that the heat of those months in 1818 was excessive. The table has been derived from two sources, the Registry of Mr. Howard, kept in the vicinity of London, and published in Thomson's *Annals of Philosophy*, and the Registry of one of the editors of this work, kept in the city of Dublin.

Mean height of the Thermometer during each month of the following years in London and Dublin, commencing with January 1815.

London, 1815.	London 1816.	London, 1817.	London, 1818.	Dublin, 1815.	Dublin, 1816.	Dublin, 1817.	Dublin, 1818.
January 32.7	36.1	38.2	38.3	Jan.* 41.0	39.8	42.7	41.5
February 44.5	33.0	42.9	30.3	Febr. 46.5	40.1	45.2	42.1
March 45.8	39.2	40.4	38.3	March 47.9	41.4	44.9	42.8
April 48.5	45.2	43.1	45.0	April 47.6	45.1	47.4	45.4
May 58.5	51.5	48.9	53.2	May 55.1	51.9	50.6	54.2
June 60.1	57.5	61.3	64.2	June 59.6	57.9	56.2	63.8
July 61.3	59.6	59.5	67.4	July 61.4	58.3	60.2	62.8
August 62.0	59.0	58.0	62.4	August 62.6	58.1	58.4	61.1
Septem. 53.6	54.3	56.8	57.1	Sept. 56.8	55.5	56.6	58.0
October 49.7	50.1	43.1	52.9	October 51.3	50.0	46.5	56.5
Novem. 38.8	37.2	46.7	47.2	Novem. 42.1	41.5	50.1	51.2
Decem. 35.0	35.7	33.2	35.8	Decem. 38.7	39.2	37.4	42.0
Mean 49.2	46.5	47.7	49.5	Mean 50.8	48.2	49.6	51.7

* The temperature of this month in 1815 not being observed by us in Dublin, the mean temperature of the same months in the subsequent years, is here substituted for it.—We have been favoured by Mr. Holt, of Cork, with a registry of the weather, kept by him in that city, confirming the results here given.

The quantity of rain which fell during the summer and autumn of 1816 was also very great. During the months commencing with July and ending with October in that year, being the season of harvest, the humidity of the atmosphere was almost incessant; rain falling during the greater part of the time in these months.

The annexed extract from a registry of the quantity of rain which fell during the several months of the years 1815, 1816, 1817, and 1818, at the Botanic Garden of the Dublin Society at Glassnevin, will confirm the preceding assertion.

Depth of rain which fell in the different months of the years 1815, 1816, 1817, and 1818. collected by the rain gauge, and expressed in inches and decimal parts.

Months.	1815.	1816.	1817.	1818.
	Inches.	Inches.	Inches.	Inches.
January,	1.100	2.000	1.710	5.170
February,	1.060	0.557	2.000	1.800
March,	1.640	1.120	0.045	3.500
April,	1.089	2.000	0.043	5.748
May,	2.245	3.570	1.080	1.000
June,	1.850	2.000	2.470	1.500
July,	1.000	4.280	5.160	1.300
August,	1.978	2.600	3.300	1.590
September,	2.010	3.220	0.330	3.400
October,	2.400	5.000	1.000	1.600
November,	1.100	1.200	3.500	2.300
December,	2.200	3.450	2.280	1.200
Total depth	19.672	30.997	22.918	30.103

From an average of observations during eight years at Paris, the annual quantity of rain which fell there

amounted to 17 inches 11 lines. But in 1816 the quantity which fell amounted to 20 inches 2 lines.*

With respect to the barometer, it may be sufficient to remark, that the height of the mercury in the years 1816 and 1817, fluctuated in a very unusual degree; and that the barometric range was much greater than ordinary.

At this period the weather did not seem to depend on the direction of the wind so much as usual. In general, winds blowing from the northern points are, in this country, attended by dry weather; but during the summer and autumn of these years, from what quarter soever the wind came, it was accompanied by rain. Thus, during two successive years, 1816 and 1817, the season of harvest was too cold and moist to bring the fruits of the earth to maturity.

The effects occasioned by unusual cold, humidity, and absence of sunshine, on the productions of the soil, were peculiarly injurious. The harvest of grain was uncommonly late, both in this country and in England. Corn remained uncut during the latter parts of October and November; and much of it was altogether lost. In many parts of this country it was on the fields in the latter months of 1816. In the reports from various parts of England also, the injurious effects of the weather on grain have been recorded. Thus, in several counties, the corn was reported to be all out, and the greater part of it spoiled in the middle of October 1816. Much of the wheat which had been saved, if so it could be termed, was found to have germinated in the husk, as frequently happens in seasons of extraordinary humidity, and to have become what farmers term malty grain. As to the degree of this change in Ireland, we have the testimony of an accurate observer, Mr. E. Davy, Professor of Chemistry to the Cork Institution, who relates, in an account of experiments which he had instituted to correct the bad qualities of

* See Phil. Magazine, v. 40, p. 369.

such grain, when made into bread, **“that he had examined several samples of new wheat, which had all, to a certain extent, undergone the process of germination or incipient vegetation.”* In some cases the plume had protruded from about 1-10th, to 5-10ths of an inch, and the radicle from about 1-10th to above an inch in length. These were some of the worst specimens; but in all, a partial germination was discoverable and most of the wheat in this country had suffered in the same way. During the first germination of seeds, sugar is evolved; on this depends the process of making and the sweet taste of malt; the flour of grain, thus altered, does not form good bread; it undergoes the panary fermentation, or in ordinary language rises, imperfectly, in consequence of the presence of the sugar, as ascertained by Mr. Davy. The grain thus altered in quality must have been very deficient, as a means of support to animals, for it was smaller than usual, more watery, the husk greater in proportion to the rest of the seed, and those parts which are nutritious, had been abstracted to supply the incipient growth of the plant during germination, or to form sugar, which contains but little nutriment. Hence it was that horses were with difficulty kept in condition at this period of time. The manufacturers of starch likewise found that the same weight of materials yielded a smaller product than ordinary. The bread made from grain, thus imperfectly matured, was ill flavoured and doughy. Several projects were at this time formed in order to correct the bad qualities of the flour, of which one deserves record, namely, the addition of a certain quantity of magnesia, as proposed by Mr. E. Davy of the Cork institution.

The cold of this season proved highly injurious to

* See *Philosophical Magazine*, vol. 49, p. 174.

the crop of potatoes also. These, which constitute the principal or only food of the poor in most parts of the country, were small and wet, and probably more defective in nutriment than the grain—nor were the effects of the cold limited to the vegetable kingdom, the scarcity of those animals whose existence depends on the heat of summer, evinced the diminished temperature of the season. This was remarked, chiefly in the insect tribe, many of which were deficient in number. One instance of this kind may be not undeserving of record, namely, in the house fly, which, in many houses in Dublin, showed itself but rarely, during the summer and autumn of 1816, and was scarce in the following year. The sufferings of the poor at this period, did not depend on diminution of vegetable food only; in many or most parts of Ireland, the straw used for bedding was often half decayed, and more than usually disposed to imbibe and retain humidity; perhaps from deficiency of the woody fibre.

Turf or peat is the chief fuel of the poor in this country, and during such wet seasons it could not be cut and dried for use. So great was the scarcity of fuel, that the hedges, which in ordinary times are respected as the boundaries of property, were destroyed, and the trees in many places were denuded of their branches to supply this necessary of life; a practice at which landed proprietors often connived, sensible that it had arisen from necessity the most urgent. Hence, dampness of clothes and bedding, imperfect cooking of food and ventilation of apartments, deficient cleanliness in persons and dwellings, all depending on the want of fuel, contributed to heighten and extend the calamities of the poor of Ireland at this eventful period.

The preceding statement refers to the effects of the cold

and wet of 1616 chiefly, but the following year was little inferior in severity. The summer and autumn were humid, cold, and ungenial, and agricultural produce, with the exception of potatoes, which were more abundant than in the former year, was almost as scarce as in 1816.—We recollect to have seen, when travelling on the North-road, leading from Dublin, corn in sheaves rotting on the ground in the month of December, 1817.

The year 1818 was remarkable for a state of weather the reverse of that in the years immediately preceding. The spring was moist, but the summer set in with unusual warmth, and proved the hottest which has occurred in this country during many years past. Our weather, about the middle of July, frequently changes and becomes cloudy and showery; but in the summer of 1818 this did not happen, on the contrary, extreme heat then prevailed, and on one day, the 16th of July, the thermometer in Dublin, in complete shade, rose to 81° , and the mean between the extremes of heat and cold in that month was 62.8° —a most unusual temperature in this climate.

The failure of the crops in 1816 was not much felt till the spring of the following year; but scarcity then becoming general, attained its greatest height about midsummer, and extending to all the productions of the earth, occasioned extreme distress. In some places the poorer classes were compelled to the sad necessity of collecting various esculent wild vegetables, nettles, wild mustard, navew, and others of the same kind to support life; and in places distant from Dublin, wretched beings were often seen exploring the fields with the hope of obtaining a supply of this miserable food. In districts contiguous to the sea, various marine plants were had recourse to for the purpose of allaying the cravings of hunger; and we have been informed, that on the sea coast near to Ballyshannon, many of the poor, during several months at this period,

subsisted, either chiefly or altogether, on cockles, muscles, limpets, or even the putrefying fish they could procure on the shore.* In some districts seed potatoes were taken up from the ground, and the hopes of the future year thus destroyed, for the relief of present necessity; and the blood drawn from the cattle on the fields, and mixed with oatmeal, when this could be procured, has not unfrequently supplied a meal to a starving family.—So general was the distress, and insufficient the supply in some distant parts of the country, that a few unhappy sufferers are said to have died of absolute want of food, and many must have sunk under the combined impressions of hunger, damp, cold, and the anguish of mind necessarily attendant on sad anticipations of the future.

The sufferings of the lower classes in Ireland, though much increased by seasons unproductive, and in other respects unfavourable, did not originate solely from this cause. Scarcity had existed to a much greater extent, as in 1800 and 1801, without producing the same general distress. For, on the late occasion, the peculiar state of Ireland, owing to the transition from war to peace, causing a lessened demand for agricultural produce with a great reduction in the price of labour, or an almost total failure of employment, contributed greatly to the calamities of 1816 and 1817. In many places, tenants became unable to pay their landlords: a very general reduction of rents took place: farmers, in consequence of the reduced demand for agricultural produce, could no longer give employment to the same number of labourers as formerly;—general despondency among the higher classes, and extreme misery among the poor ensued. It is evident that distress will increase in proportion to the high price of provisions and the low price of labour, or in a ratio compounded of these prices. In several parts of the country the price of a

* This fact we owe to Dr. Crawford of Ballyshannon.

day's labour fell to sixpence, or even to fourpence, without food ; and this at a time when potatoes, small and wet, were selling at the rate of tenpence for the stone ; a quantity insufficient for the support of a small family. We have annexed a tabular view of prices of the chief articles of provisions in some of the principal towns of Ireland during three years, from 1816 to 1818, both inclusive. The average prices of potatoes and oatmeal are those of wholesale dealers, extracted from *THE FARMER'S JOURNAL*. The prices of retailers were of course greater than those here given. Inspection of the table will show the periods of greatest distress, so far as this depended on failure of the crops, and also the return of comparative plenty after the productive harvest of 1818.

To the causes of general distress here given, failures in trade and manufacturers should be added. About this period, and for some time previously, more especially on the return of peace, several very considerable merchants and manufacturers became bankrupts, and their numerous dependants were thus deprived of employment. Many such instances, producing ruin to a large mass of the working part of the community, could be adduced in all the principal towns of Ireland.

*Average prices of the following articles during the months,
and in the places underneath specified.*

Months.	Dublin.				Limerick.	
	Oatmeal per Cwt.		Potatoes per stone.	Qrn. loaf weighing 4lb. 5oz. 8dwts.	Oatmeal per Cwt.	Potatoes per stone.
	s.	d.	d.	d.	s.	d.
Jan. 1816	10	10	...	8 $\frac{1}{2}$	11	1 $\frac{1}{2}$
February	11	8	...	8 $\frac{1}{4}$		3
March	11	5 $\frac{3}{4}$	...	9 $\frac{1}{4}$	12	3
April	12	2 $\frac{1}{4}$	...	10 $\frac{1}{4}$		...
May	13	8 $\frac{1}{2}$	...	14 $\frac{1}{4}$		
June	14	6	5 $\frac{3}{4}$	13 $\frac{1}{4}$		
July	13	1 $\frac{1}{2}$	6	11 $\frac{1}{2}$		
August	15	0	7	12		
Septem.	15	4	4 $\frac{1}{2}$	14 $\frac{1}{2}$		
October	19	7 $\frac{1}{2}$	...	15 $\frac{1}{2}$		
Novem.	23	10 $\frac{1}{4}$	8 $\frac{1}{2}$	17 $\frac{1}{2}$	17	6
Decem.	25	1 $\frac{1}{2}$	8	20 $\frac{1}{4}$	21	4 $\frac{1}{4}$
Jan. 1817	25	7 $\frac{1}{2}$	5 $\frac{3}{4}$	21 $\frac{1}{4}$		3 $\frac{1}{4}$
February	26	3 $\frac{1}{4}$	9 $\frac{1}{4}$	21	25	3
March	30	3	11 $\frac{1}{4}$	21 $\frac{1}{4}$	28	0
April	28	4 $\frac{1}{4}$	10 $\frac{1}{4}$	19 $\frac{1}{4}$		5
May	24	10 $\frac{1}{2}$	10 $\frac{1}{4}$	18 $\frac{1}{4}$		
June	32	9 $\frac{3}{4}$	13 $\frac{1}{4}$	18	27	0
July	26	9 $\frac{1}{4}$	13 $\frac{1}{2}$	16 $\frac{3}{4}$		8 $\frac{1}{2}$
August	23	7	...	14 $\frac{1}{4}$		
Septem.	17	10 $\frac{1}{2}$	...	13 $\frac{1}{2}$	22	6
October	13	3 $\frac{1}{2}$	...	13 $\frac{1}{4}$	...	3 $\frac{1}{4}$
Novem.	14	8 $\frac{1}{2}$	5 $\frac{1}{2}$	14 $\frac{1}{4}$	...	4
Decem.	22	0 $\frac{1}{2}$	6 $\frac{1}{4}$	15 $\frac{1}{4}$	21	3
Jan. 1818	20	9	7 $\frac{1}{4}$	13 $\frac{1}{4}$	21	9
February	20	5 $\frac{3}{4}$	7 $\frac{1}{4}$	13 $\frac{1}{4}$	22	0
March	22	0 $\frac{1}{2}$	7 $\frac{1}{4}$	13 $\frac{1}{4}$	22	6
April	19	8 $\frac{1}{2}$	7 $\frac{1}{4}$	13 $\frac{1}{4}$	22	9
May	19	5 $\frac{3}{4}$	7 $\frac{1}{4}$	13 $\frac{1}{4}$	19	6
June	14	3	6 $\frac{1}{4}$	13 $\frac{1}{4}$	18	0
July	17	0	6 $\frac{1}{2}$	13 $\frac{1}{4}$	17	3
August	16	11 $\frac{3}{4}$	...	13 $\frac{3}{4}$	19	6
Septem.	18	3 $\frac{1}{4}$	...	12 $\frac{1}{2}$	19	6
October	18	9 $\frac{3}{4}$	5	11		4 $\frac{3}{4}$
Novem.	18	2 $\frac{1}{4}$	4 $\frac{1}{4}$	11 $\frac{1}{4}$	19	0
Decem.	18	4 $\frac{1}{4}$	6	11	19	0

Average prices of the following articles during the months, and in the places underneath specified.

Months.	Carlow.		Waterford.	
	Oatmeal per Cwt.	Potatoes per stone.	Oatmeal per Cwt.	Potatoes per stone.
	s. d.	d.	s. d.	d.
Jan. 1816	...	...	11 2	3½
February				
March	...	...	9 9	3½
April	...	...	10 1½	3½
May	...	...	13 0	4½
June	...	...	14 3	4½
July	13 0	...	13 3½	4½
August	...	...	12 6	4½
Septem.	...	...	13 6	4½
October	...	...	16 4½	7
Novem.	...	...	20 6	8½
Decem.				
Jan. 1817	...	...	24 3	6½
February	...	...	25 3	6½
March	...	...	25 0	6½
April	...	...	27 5	7½
May	...	...	24 6	8
June	...	...	28 0	11
July	...	...	28 0	12
August	...	...	27 0	8½
Septem.	...	...	16 6	6½
October	...	...	15 6	6½
Novem.	...	...	15 0	6½
Decem.	19 0	3½	19 6	5
Jan. 1818	20 6	3½	19 6	5½
February	22 0	3½	19 6	5½
March	22 0	4½	19 6	5½
April	22 0	4½	19 9	5½
May	20 0	5½	20 0	6½
June	18 4	5½	19 0	5½
July	19 0	4½	19 6	6½
August	20 0	5½	19 6	6½
Septem.	20 0	5½	20 6	6½
October	19 0	4	19 6	4½
Novem.	18 6	3½	19 3	4½
Decem.	19 0	3½	20 0	5½

Average prices of the following articles during the months, and in the places, underneath specified.

Months.	Wexford		Belfast.	
	Oatmeal per Cwt.	Potatoes per stone.	Oatmeal per Cwt.	Potatoes per stone.
	s. d.	d.	s. d.	d.
Jan. 1816	...	2	11 1 $\frac{1}{2}$	3
February				
March	11 2 $\frac{3}{4}$	3
April	...	2		
May	15 3	4 $\frac{1}{4}$
June	13 6	4
July	...	4 $\frac{1}{2}$	14 8 $\frac{5}{8}$	4 $\frac{1}{2}$
August	17 1	5 $\frac{3}{4}$
Septem.	...	4	18 2	4 $\frac{1}{4}$
October	21 0 $\frac{1}{2}$	5 $\frac{1}{2}$
Novem.	22 9	5 $\frac{1}{2}$
Decem.	24 10 $\frac{1}{2}$	4 $\frac{1}{2}$
Jan. 1817	...	4	24 6	5
February	...	5 $\frac{1}{2}$	25 4 $\frac{1}{2}$	4 $\frac{5}{8}$
March	...	6 $\frac{1}{4}$	32 5 $\frac{1}{4}$	...
April	...	5	32 8 $\frac{1}{2}$	9 $\frac{1}{4}$
May	...	10 $\frac{1}{2}$		
June	...	10 $\frac{1}{2}$		
July	27 1 $\frac{1}{2}$	8 $\frac{1}{2}$
August	24 3	5 $\frac{1}{4}$
Septem.	19 6 $\frac{3}{4}$	3 $\frac{1}{2}$
October	...	3 $\frac{1}{2}$	13 10 $\frac{1}{2}$	2 $\frac{3}{4}$
Novem.	17 3 $\frac{1}{4}$	2 $\frac{3}{4}$
Decem.	...	5	18 9	3 $\frac{1}{2}$
Jan. 1818	20	5	19 1 $\frac{1}{4}$	
February	...	5	17 11	3 $\frac{3}{4}$
March	...	5	19 3	3 $\frac{1}{2}$
April	...	6 $\frac{1}{2}$	19 2 $\frac{1}{2}$	3 $\frac{3}{4}$
May	...	7 $\frac{1}{2}$	20 2 $\frac{1}{2}$	4 $\frac{1}{4}$
June	...	5	18 6 $\frac{5}{8}$	4 $\frac{1}{2}$
July	...	5	16 7 $\frac{1}{2}$	4 $\frac{1}{2}$
August	...	8 $\frac{1}{2}$	15 5 $\frac{1}{4}$	4 $\frac{1}{4}$
Septem.	...	7	15 10 $\frac{1}{2}$	4 $\frac{1}{2}$
October	...	6 $\frac{1}{4}$	16 3 $\frac{1}{2}$	4
Novem.	...	4 $\frac{1}{2}$	17 4	3 $\frac{1}{4}$
Decem.	...	6 $\frac{1}{4}$	18 8 $\frac{5}{8}$	3 $\frac{3}{4}$

The miserable appearance of most of the peasantry of Ireland, when scarcity was urgent, their pallid countenances, tattered clothing, and want of shoes and stockings, afforded sufficient evidence of their unhappy condition. Many, whose circumstances had been heretofore comfortable, were either compelled to submit to extreme privations, or were reduced to absolute want. Many were driven into mendicity. In some parts of the country, mendicants in crowds passed in various directions. When in Limerick, one of the Editors was informed, that, at the period of greatest scarcity, the wretched peasantry were under the necessity of adopting extraordinary exertions in order to procure sustenance; and the words of the gentleman who communicated this information were, that "the whole country appeared to be in motion." In Dublin, when the scarcity was at its greatest height, we have seen country labourers, followed by their families, with countenances despondent and emaciated, which sufficiently evinced the reality of their distress, wandering through the streets, earnestly soliciting employment or relief. Nor can we soon forget the impression we received on witnessing the numbers of half famished creatures, who crowded around the doors of the more opulent classes, and eagerly collected the fragments of broken meat, and other remnants of the last meal. In the midst of such afflictions, the equanimity and forbearance of the poor were in general most conspicuous, and should not be passed over without grateful record. Violence or riots occurred but in a few instances, and only when scarcity and want of employment were at their greatest height. In Dublin, Limerick, Galway, Ennis, Waterford, and a few other places, some starving labourers and manufacturers assembled tumultuously; and in Galway, so early as the month of January 1817, a mob collected to prevent the exportation of oatmeal. Corn mills and stores were in some instances attacked, as

at Limerick on the 6th of June 1817. In Dublin, between the 19th and 26th of June of that year, a few individuals, impelled, no doubt, by necessity, made various attempts to seize provisions. Porters carrying bread, from bakers to their customers, were attacked in the streets and robbed of their burdens. Potatoes and turnips, in similar circumstances, were also forcibly carried off. The shops of some bakers and other venders of provisions were plundered, and tumult in a few instances occurred; but the rioters either yielded immediately to expostulation, or were soon repressed; and it deserves particular remark, that although many of the idle and profligate joined in the tumult, the violence was limited to seizing provisions; whence we may infer, that the wants of the majority of such rioters were real, and that their conduct resulted from motives of self-preservation.

The state of the country at this period had attracted the attention of its government. A proclamation was issued by his Excellency the Lord Lieutenant, recommending the wealthier classes to discontinue the use of oatmeal and potatoes in their families; and a circular letter from the Chief Secretary was sent to different parts of Ireland, "giving notice to all those who had already, or might hereafter, enter into contributions for the relief of the poor during the existing distress, that his Excellency was ready to attend to all applications on the subject addressed to Government, and where it should be found necessary and expedient, to make such reasonable addition to such contributions as, under the circumstances of the case, should appear proper." The importations of grain from the north of Europe, encouraged by the government of these countries, now became very considerable.—Rice and American flour were at the same time imported largely into this kingdom, and contributed both to keep down the price of provisions, and, when

mixed with the bad flour of the preceding year, to improve the quality of the bread. In Dublin, meetings were held at the Mansion-House, for the purpose of devising the best means of relief, and the benevolent inhabitants contributed most liberally. With the sums thus raised, oatmeal and other provisions were purchased and sold at a reduced price to the poor, and by perseverance in these measures, much of the distress necessarily attendant on scarcity, in the crowded population of Dublin, was either alleviated or prevented. Similar proceedings were adopted in all the principal towns, and in many other parts of Ireland. Of these we have selected Waterford as an example, for the purpose of recording the benevolence of its inhabitants, and of serving as the basis of future exertion, in case of similar necessity. For the details, which we owe to Dr. Bracken, one of the Physicians to the Fever Hospital in that city, see No. xviii. vol. 2, p. 326.

In this statement of circumstances, either preceding or attendant on the invasion of Epidemic Fever in Ireland, we should not omit to notice the unusual prevalence of fever on the continent of Europe during a series of previous years. This was peculiarly the case in Spain during the peninsular war; in different parts of France and Germany also, immediately after the retreat of the French armies from Russia, fever was extremely prevalent and destructive. Of this assertion sufficient evidence can be had in the publications of Sir James M'Grigor, in the reports of Baron Larrey, communicated to the French government in December 1813, and in various treatises on the subject of fever, as it appeared at Leipsic, Dresden, Altona, and other parts of the continent.—Sir James M'Grigor, in his sketch of the diseases of the army in Spain,* states, that

* Med. Chir. Trans. v. 6, p. 413.

more than thirty-three thousand cases of continued fever were admitted to the regimental hospitals in that country, during the short space of two years and half, from the commencement of the year 1812 to the middle of 1814. This disease prevailed to a great degree among the inhabitants also:—at Ciudad Rodrigo, one fifth of the inhabitants died of misery and fever in the year 1812.

Baron Larrey, in his description of the retreat from Russia, in the “Memoires de Chirurgie Militaire,” thus expresses himself: “Arrivés dans la vieille Prusse, où l’armée eut quelque jours de repos, des alimens à discrétion et des asiles chauds, la plupart des soldats qui avaient heureusement résisté aux effets funestes du froid et de la faim, furent atteints presque tout à coup de la maladie, que nous désignerons sous le nom de *fièvre meningite catarrhale de congelation*. Cette maladie prit, en peu de temps, un caractère épidémique, et lorsqu’ elle était parvenue au troisième degré, elle devenait contagieuse, surtout si elle avait pour complication des affections gangréneuses aux extrémités.” The symptoms of this disease, as detailed by Larrey, correspond with those of bad typhous fever. Resuming his account of its progress, he observes, “Cette maladie a fait les plus grands ravages dans les premières villes de la Pologne et de la vieille Prusse où un grand nombre de nos compagnons avaient été obligés de s’arrêter pour cause de fatigue ou de congélation aux pieds.” In his report to the Minister of War, dated December 10, 1813, in allusion to the Epidemic Fever which then prevailed in France, he states, “On avait beaucoup exagéré les effets de cette épidémie, que de jeunes docteurs en médecine envoyés de Paris avaient considérée comme pestilentielle et éminemment contagieuse: aussi avaient ils proposé pour première mesure, la *défense expresse de laisser communiquer les militaires avec les habitans des villes et des campagnes*.” He mentions its prevalence at Pont a

Mousson, Nancy, Thiaucourt, Saint Benoît, Manthul, Verdun, Etain and Malatour.* Thus we have the most satisfactory evidence in proof of the great prevalence of fever in various parts of France, at this time: it had also raged at Dresden, and in the fortress of Torgau at Hanau, different parts of Wirtemberg, and at Leipsic: we have a particular account of the epidemic fever as it appeared at Altona in the year 1814, by Steinheim.† In the same year it was very prevalent at Paris.§ The circumstances of the inhabitants of a great portion of the continent at this time, arising from the distress occasioned by its being the seat of war, must have strongly resembled those of the people of Ireland during the late scarcity of provisions. At a later period in 1817, after a failure of the crops, epidemic fever existed in the southern parts of Italy. We have been informed by a gentleman, who travelled in that country during the year mentioned, that fever prevailed to a most alarming extent at Rome, Turin, Venice, and probably over the whole of Italy. It was epidemical in Savoy about the same time.†

At Rome, a few days previous to the termination of Easter, so great was the increase of fever, that it was considered prudent to open new wards for the reception of fever patients. The mortality became alarming; many of the attendants in hospitals, including the clergy, were attacked with fever and died. The upper classes of the inhabitants suffered also; several of whom, as well as of the physicians, became its victims. At length the deaths from fever became so numerous as to cause great alarm, and attract the attention of government. Nearly

* See *Memoires de Chirurgie Militaire*, T. 4, pp. 139, 147, 458.

† Steinheim Ueber den Typhus im Jahr 1814 in Altona.

§ *Recherches, &c.* par M. Lassus, p. 325.

† See *Journal general de Medecine*, tom. 49, p. 401.

at the same time fever was very prevalent at Venice, and was attributed by Dr. Alietti, principal physician in that city, to the introduction of infection by prisoners brought there from the north of Italy; but it was evident that the malady had existed during some years previously in Venice, though not in the same degree. In all these instances, scarcity of food, the consequence of a failure of the crops in the preceding year, had greatly contributed to further the progress of fever; and in many parts of Italy so great was the famine, that articles of food, which in ordinary times would have excited disgust, were eagerly sought after to appease the cravings of hunger.*

For the following facts, relative to this epidemic fever, as it appeared in Lombardy, we are indebted to Dr. Pockles, Physician in Chief of the Brunswick army, who personally witnessed the distress occasioned by it in that country. It commenced in the month of September 1816. In Brescia it shewed itself sooner. At its commencement it was observed that various febrile eruptive diseases, scarlet fever, measles, small pox, and miliary eruptions, were more frequent than is usual; but an attack of these did not seem to afford any security against epidemic fever. In its rise, progress, and decline, this resembled other epidemics. When it appeared to have attained its acmè, it then, for a short time, declined, but again increased to its former degree of frequency. Its effects were very destructive. At the principal hospital at Milan, in that part of it which is appropriated to the accommodation of typhous patients, the number of petechial cases admitted during the year 1817 amounted to 561; and in the year 1818, up to the month of November, the number of such cases was 360. During the

* See 69th page of Medical Report of the Fever Hospital in Cork-street, dated October 1, 1818.

whole continuance of this epidemic, till November 1818, the number of typhous patients admitted to this hospital amounted to 1057. This number includes the petechial cases only; and several hospitals in Milan, besides the above-mentioned, at that time received fever patients. The mortality in such cases as those admitted to the principal hospitals amounted, on an average, to eleven in the hundred. During its greatest prevalence, gangrene of the extremities and of the face was frequently observed. In most parts of Lombardy, fever diminished in frequency till the months of September and October 1818; in the latter month it had completely ceased as an epidemic. In Milan, it terminated in Autumn 1818. Its duration in this country appears in every instance to have been limited to two years. Every small town in Lombardy has a good hospital, and during the prevalence of this epidemic fever, new fever hospitals were very generally established, particularly in the neighbourhood of Milan and in Tuscany. As the epidemic fever declined at Milan, puerperal fever became very frequent and mortal, in a degree much exceeding that of late years at the same season. From the same authority we learned, that in the early part of 1817 scarcity of food was so great in Germany that many died of hunger; but no epidemic fever existed there at that time. It had prevailed in that country three years previously, and did not then originate from scarcity of provisions, but was traced to the miserable remnant of the French army which entered that country after its overthrow in Russia.

From the facts here adduced, it follows incontrovertibly, that during the times of its increase in Ireland, fever was very prevalent in most parts of the continent, and that the circumstances which caused it to spread epidemically, were not peculiar to this island.

The gradual increase of this disease in Ireland during several years past, commencing with the year 1810, led to the adoption of various preventive measures, which in some degree prepared the country for the events expected by those in whose memory the scarcity of 1801, and the attendant fever, were still alive. An Act of Parliament had been passed to promote the establishment of Dispensaries throughout Ireland. These institutions are not merely curative, they also disclose the wants of the poor, and the actual state of the public health. In some places where Fever Hospitals had been established, such accommodation for the relief of the sick poor had been most providently extended.—The Governors of the Fever Hospital in Cork-street, Dublin, with the prudence and foresight which have ever actuated their proceedings, contemplating the evil consequences likely to result to their fellow-citizens from the progressive increase of fever, obtained the aid of government, to enable them to add to their establishment a new building, which was happily completed at the time when the manifest increase of fever proved that the disease had become epidemical in this great city. The Whitworth Hospital at the House of Industry, intended for chronic patients, was also completed about the same time, and judiciously appropriated by the Governors of this institution to fever patients. The building of the new Whitworth Fever Hospital, in the north eastern suburbs of Dublin, was at this time in great forwardness. The Fever Hospital in Waterford had also received many improvements; new wards, in every respect commodious, and well adapted to their intended purpose, were erected; and a plan entered on, and conducted with persevering and systematic exertion, productive of the most beneficial effects. Fever Hospitals had existed during many years past in Cork, Limerick, Belfast, and Kilkenny; these establishments also, must have

greatly contributed to obviate the distresses arising from the epidemic fever.

The failure of the crops in 1816, and the succeeding scarcity of provisions, induced those whose attention was directed to the public health, to expect an increase of fever, and even to apprehend its general extension. No long time elapsed, ere it appeared that these apprehensions were too well-founded: accounts from various quarters at the conclusion of 1816, or commencement of the following year, gave evidence of the frequency of fever in places remote from the capital, both in the North and South of Ireland.—In this country, from which fever is never altogether absent, to determine with exactness when it becomes epidemical, must be attended with difficulty. Deducing our information from the reports of the Inspectors appointed by the Lord Lieutenant, as annexed to this work, and from some communications made to the editors of the Dublin Hospital Reports, we have constructed a table exhibiting the times of manifest increase of fever in various parts of each of the provinces, thus endeavouring to collect, under one view, the dates of its commencement, and to trace its progress in places either remote from the capital or contiguous to it.

TABLE,

Exhibiting the times of the commencement and greatest prevalence of fever in different parts of Ireland.

MUNSTER.

COUNTY OF WATERFORD.

Places.	Informant.	Time of Commencement.	Time of greatest prevalence.
Waterford,	Dr. Lanphier.	Dec. 1816, or Jan. 1817.	
Ditto	Dr. Poole.		Feb. 1819.
Ditto	Dr. Hearne.	March 1817.	Feb. 1819.
Ditto	Dr. Mackesy.	January 1817.	Feb. 1819.
Ditto	Drs. Bracken and Burkitt.	Jan. or Feb. 1817.	
Ditto	Dr. Fleury.		Feb. 1819.
Ditto	Dr. Briscoe.	Gradual increase during 5 years past.	
Tramore,	Dr. Waters.	Summer 1817.	Winter 1817.
Cappoquin,	Mr. James Allen.	About Aug. 1815, among upper ranks, and about Oct. 1817 amongst the poor.	
Lismore,*	Dr. Quinlan.	Sept or Oct 1816, a great increase in November 1817.	
Ditto	Rev. Mr. Coleman.	Jan. or Feb. 1818, at Ballyduff, south side of Blackwater.	
Tallow,	Dr. Hannan.	May 1817.	Summer 1818.
Ditto,	Rev. Mr. O'Donnell.	Dec. 1817.	

COUNTY OF CORK.

Youghal,†	Dr. Dartnol and Mr. Harvey.	June 1817; none certainly in March 1817.	October 1817.
Ditto,	Dr. Rogers.	July 1817.	
Castle Mar-tyr,	Mr. Eames.	Summer of 1817.	

VOL. I.

E

* For much of the information obtained at Lismore, we are indebted to the Rev. Archdeacon Ryan.

† Note a resemblance between Youghal, Kinsale, Tramore and Tralee, as to time of appearance.

COUNTY OF CORK—*continued.*

Places.	Informant.	Time of commencement.	Time of greatest prevalence.
Middleton, Cork,	Mr. A. Dickenson. Drs. Hallaran, Barry, Beamish and Biggar.	June 1817. February 1817. January 1817.	September 1818. Summer and au- tumn 1818.*
Ditto,	Dr. Sharkey.	About Sept. 1816.	
Ditto,	Drs Peebles and Cantillom.	February 1817.	
Ditto,	Dr. Rogers.	March 1817.	
Ditto,	Dr. Gibblings.	March 1817.	
Ditto,	Dr. Baldwin.	Summer of 1816.	
Ditto,	Dr. Pickells.		Summer 1818.
Cove,	Dr. Millet.	Sept. 1816,	
Bandon,	Dr. Jenkins.	December 1816, or January 1817.	Autumn of 1817 most prevalent and mortal.
Ditto,	Dr. Clarke.	April 1816.	
Ditto,	Dr. Harris.	February 1817.	Summer 1818.
Kinsale,	Drs. Beamish and Bishop.	June, July, & Aug. 1817,	
Skibbereen,	Dr. M'Carthy.	April 1817, or pre- viously among up- per ranks,	Summer of 1817.
Fermoy,	Dr. Campbell.	Spring of 1817.	
Ditto,	Dr. Murphy and Dr. O'Neale.		Spring and Summer of 1818.
Ditto,	Dr. M'Namara.	Jan. or Feb. 1818.	Summer of 1818.
Mallow,	Dr. Davis.	Autumn 1816.	
Ditto,	Dr. Galway.	April 1817.	
Mill-Street,	Rev. Mr. Hayes.	February 1817.	

COUNTY OF KERRY.

Killarney,	Dr. Mayberry.		In Summer.
Ditto.	Drs. Murphy, Mori- arty, & M'Donogh.	March or April 1817.	May and June 1818.
Macroom,	Dr. M'Sweeney.		August, Sept. and October 1817.
Tralee,	Dr. Lyne.	December 1816.	Summer of 1817.

* See Return II. p. 56, vol. 2d of this work.

COUNTY OF KERRY—*continued.*

Places.	Informant.	Time of commencement.	Time of greatest prevalence.
Tralee,	Dr. Mawe.	August 1817.	Summer of 1818.
Ditto,	Drs. Purdon, King, and O'Connell.	August 1817.	
Listowel,	Mr. Church.	Spring of 1817.	Summer of 1817, and autumn.
Ditto,	Dr. O'Connell.	Sept. 1816,	January and Feb. 1818.
Ditto,	Dr. Ryan.	Feb. 1817.	

COUNTY OF LIMERICK.

Adair, Limerick,	R. C. Clergyman. Dr. Grogan.	February 1817. February 1817,	From Sept to Dec. 1817.
Ditto,	Dr. Harding.	Early in 1817.	From Nov. 1817, for 9 or 10 months.
Ditto,	Dr. Geary.	1816-17, but dis- tress did not drive patients to hospitals till subsequently.	

COUNTY OF TIPPERARY.

Tipperary,	Drs. Armstrong, M'Carthy, & Dr. Rae.	September 1817.	In Jan. 1818, Its frequency among higher classes had much abated.
Cashell,	Dr. Meagher.	September 1817.	February, March, April, and Summer of 1818.
Cahir,	Dr. Beale.	April and May 1817.	July and August 1818.
Clonmell,	Drs. Fitzgerald, Philips, and Bell.	May 1817.	July 1818.
Ditto,	Mr. Wilkinson and Dr. Eagle.		
Ditto,	Mr. Burgess.	July and August do.	May, June, and July 1818.

COUNTY OF TIPPERARY—*continued.*

Places.	Informant.	Time of commencement.	Time of greatest prevalence.
Carrick on-Suir,	Dr. Williamson.	Spring of 1817, or summer.	
Ditto,	Rev. Mr. Grady.	October 1817.	
Templemore	Mr. Kingsley.		Sept. and Oct. 1818.
Roscrea,	Dr. Dancer and Mr. Kingsley.		December 1817.
Ditto,	Mr. Hargrave.	August or September 1817.	Within period included between July 1818 & Mar. 1819.

COUNTY OF CLARE.

Ennis,	Dr. O'Brien and Mr. Castles.	Early in 1817.	End of 1817.
--------	------------------------------	----------------	--------------

CONAUGHT.

COUNTY OF MAYO.

Places.	Informant.	Time of commencement.	Time of greatest prevalence.
Killala,	Mr. Bishop.	Sept. and October 1816.	December 1818.
Ballina,	Dr. Faussett.	July & Aug. 1817.	ditto.
Castlebar,	Dr. Keane.	June 1817	March 1818.
Newport,	} Dr. Nicholson.	Sept. & October 1817.	December do.
Westport,			
Hollymount	} Dr. Hamilton of Ballinrobe.		
Ballinrobe,		June 1817,	March 1818.
Kilmaine,		ditto.	August do.
Cong,			

COUNTY OF SLIGO.

Sligo,	Physicians of Sligo.	Early in 1817.	September 1817, to March 1818.
--------	----------------------	----------------	--------------------------------

COUNTY OF LEITRIM.

Places.	Informant.	Time of Commencement.	Time of greatest prevalence.
Leitrim,	} Mr. Brady.	Early in 1817.	October 1817, to March 1818.
Carrick-on-Shannon,		Ditto.	July to December 1818.
Mohill,		Ditto.	Ditto.

COUNTY OF GALWAY.

Tuam,	Dr. Little,	Early in 1817.	June 1818.
Headford,	Dr. Crampton, Provincial Inspector.	ditto.	
Monivae,	Dr. Macartney.	ditto.	ditto.
Ballinasloe,	Dr. Colahan.	ditto.	March 1818.
Galway,	Physicians of Galway.	End of summer 1816.	ditto.
Loughrea,	Dr. McDonnell.	Early in 1817.	Sept. 1818.
Gort,	Dr. Fitzpatrick.	ditto.	Oct. do.

COUNTY OF ROSCOMMON.

Boyle,	Dr. Verdon.	May 1817.	October 1817.
Elphin,	} Dr. Crampton, Prov. Inspector.	Feb. do.	From June to Sept. 1817.
Castleteagh,		ditto.	ditto.
Tulsk,		ditto.	ditto.
Strokestown,		December 1816.	ditto.
Roscommon,		February 1817.	From June to Sept. 1817.
	Sir T. Moriarty.	ditto.	
	Dr. Simpson.		

ULSTER.

COUNTY OF DOWN.

Places.	Informant.	Time of commencement.	Time of greatest prevalence.
Downpatrick,	Dr. Nevill.	Spring 1817.	
Newry,	Dr. Black.	Summer 1816.	

COUNTY OF ANTRIM.

Belfast,	Physicians of Belfast. *	July 1817.	End of 1817.
Antrim,	Mr Bryson.	ditto.	
Glenavy,	Dr. Murray.	September do.	Ditto do.
Lisburn,	Mr. Crawford.	Summer do.	
Ballymena,	Dr. Young.	July do.	

COUNTY OF ARMAGH.

Armagh,	Drs. Atkinson, Ryan and Mr. Barclay.	Summer 1817.	End of 1817.
Lurgan,	Dr. Clarke, Provincial Inspector.	June 1817.	Winter of do.

COUNTY OF MONAGHAN.

Monaghan,	Dr. M'Dowell	Spring or Summer 1817.	
-----------	--------------	------------------------	--

* See Report of Dr. Clarke, Provincial Inspector.

COUNTY OF TYRONE.

Places.	Inforinant.	Time of commencement.	Time of greatest prevalence.
Omagh, Cookstown,	Dr. Flanagan. Dr. Clarke, Provin- cial Inspector.	Summer 1817. Do.	Winter 1817. Do.
Dungannon, Strabane,	Do. Dr. Rogan *	Do. July do.	Do. Autumn and win- ter 1817.

COUNTY OF DERRY.

London- derry,	Dr. Caldwell and Dr. Maginnis.	Summer 1817, Spring do.	End of 1817.
-------------------	-----------------------------------	----------------------------	--------------

COUNTY OF DONEGAL.

Ballyshan- non,	Dr. Shiel and Mr. Crawford.	Feb. and April 1817.	Summer 1817.
--------------------	--------------------------------	-------------------------	--------------

COUNTY OF FERMANAGH.

Enniskil- len,	Mr. Ovendon.	July 1817.	Autumn 1817.
-------------------	--------------	------------	--------------

COUNTY OF CAVAN.

Cavan,	Drs. Murray and Roe.	April 1817.	September 1818.
--------	-------------------------	-------------	-----------------

* See Dr. Rogan's valuable work on the Epidemic Fever, p. 31.

LEINSTER.

COUNTY OF WICKLOW.

Places.	Informant.	Time of commencement.	Time of greatest prevalence.
New T. Mt. Kennedy.	Dr. Wilson.	Autumn 1817.	Winter of 1817.
Parish of Deralossery, Wicklow,	J. Synge, Esq.	Summer do.	Spring 1818.
Rathdrum,	Dr. Goodison.		Winter do.
Arklow,	Mr. Clarke.	Winter 1816.	Autumn do.
Baltinglass	Dr. Johnstone.	Jan. 1818.	Spring do.
& Stratford,	Mr. Heath.	Beginning of Summer 1817.	Winter do.
Carnew,	Dr. Derenzy.	Autumn 1816.	Do. 1817.

COUNTY OF WEXFORD.

Gorey,	Dr. Hamilton.	October 1817.	Spring 1819.
Enniscorthy,	Drs. Pounden and Burkitt.	May 1818.	Ditto do.
Wexford,	Drs. Lane and Renwick.	Summer ditto.	Winter 1818.
New Ross,	Dr. Drapes.	December 1817.	Autumn do.
N. T. Barry,	Dr. Robinson.		Spring 1819.

COUNTY OF KILKENNY.

Kilkenny.	Dr. E. Ryan, and Mr. Paek.	June 1817.	January 1818.
-----------	----------------------------	------------	---------------

COUNTY OF CARLOW.

Hacketstown,	Mr. Brady.	June 1818.	January 1819.
Tullow,	Mr. Payne.		December 1817.
Carlow,	Drs. Maharg and Reid.	March 1817.	October 1817.
Bagnalstown,	Dr. Stone.	Winter 1816.	Autumn do.

COUNTY OF KILDARE.

Places.	Informant.	Time of commencement.	Time of greatest prevalence.
Kilcock,	Dr. Cheyne, P. I.	August 1817.	Autumn and winter 1817.
Naas,	Dr. Bolton.	Winter 1816.	Ditto do.
Kildare,	Mr. Tomlinson.		Autumn do.
Monaster-even,	Mr. Jenkins.	Summer 1817.	Nov. do.
Ballytore,	Dr. Davis	End of 1816.	Autumn do.
Athy,	Dr. Johnston.		Ditto do.
Castledermot.	Mr. Carter.	August 1817.	September do.

QUEEN'S COUNTY.

Portarlington,	Dr. Harte and Dr. Ferris.	Summer 1817.	Winter 1817.
Mountmellick,	Dr. Doxy.	Ditto do.	
Maryborough,	Dr. Jacob.	Spring do.	
Stradbally,	Dr. J. Ryan.	August and September do.	Autumn do.
Abbeyleix,	Mr. Boxwell.	Beginning of summer do.	Ditto do.
Durrow,	Dr. Harte.	July do.	Ditto do.

KING'S COUNTY.

Edenderry,	Dr. Grattan.	End of 1816.	July and August 1817.
Philipstown.	Mr. Dennis.	Autumn do.	Autumn do.
Tullamore,	Dr. Brereton and Mr. Peirce.	End of July 1817	Ditto do.
Parsonstown,	Dr. Heenan.	September do.	From Oct. 1817, to March 1818.

COUNTY OF WESTMEATH.

Places.	Informant.	Time of Commencement.	Time of greatest prevalence.
Rathowen,	Dr. Cheyne, P. Insp	End of summer 1817.	Autumn 1817.
Mullingar,	Dr. Barlow.	Spring do.	June and July do.
Killucan,	Mr. Reed.	Autumn do.	End of do.
Kinnegad,	Dr. Cheyne.	Summer do.	September and October do.
Athlone,	Dr. Crampton, P. Inspector.	Feb. do.	Feb. 1819.

COUNTY OF LONGFORD.

Longford.	Mr. Peacock.	August 1817.	Winter 1817.
Ballymahon,	Mr. Gibbings.		Ditto do. and Spring 1818.

COUNTY OF MEATH.

Oldcastle,	Dr. Brady.	Summer 1817.	Autumn 1817.
Kells,	Dr. Byron and Mr. Nelligan.	August do.	End of do.
Slane,	Dr. Fisher.	July do.	Autumn do.
Navan,	Dr. Brown,	Summer do.	Autumn and beginning of winter do
Trim.	Dr. Shegog.	September do.	Oct. and Nov. do.
Dunshaughlin.	Dr. Corbally.	Early in autumn do.	Winter do.

COUNTY OF LOUTH.

Dundalk,	Dr. Clarke, Provincial Inspector.	May 1817.	Autumn and winter 1817.
Ardee,	Mr. Runcie.	June do.	Oct. Nov. and Dec. do
Collon,	Mr. Murphy.	Summer do.	End of do.
Drogheda,	Dr. Fairtlough.	June do.	Sept. and Oct. do.

DUBLIN.

Dublin,	Editors of this work.	September 1817.	Autumn and winter 1818.
---------	-----------------------	-----------------	-------------------------

We have already stated, that during several years previous to the commencement of epidemic fever in Ireland, the disease had been very prevalent on the Continent of Europe; hence it might be inferred, that from this source it had originated. But whatsoever may have been the causes which have rendered the disease more than usually frequent during the last nine or ten years, no distinct evidence has been obtained of its introduction from the Continent; and an inspection of the preceding table points out, that the rapid increase of the disease depended on general causes, operating in most parts of the country at the same time. For we find that it commenced in places situated most distant from each other, in different parts of Munster and Ulster, at the end of 1816, or beginning of 1817; and making the proper allowance for the difficulty of determining when fever became epidemical in places which are always infested by the disease, we must admit that the periods of its manifest increase were nearly coincident. In fact, the scarcity of provisions, combined with want of employment, whatsoever their mode of operating may have been, appears as the main cause of the spreading of fever epidemically through this country; although it must also be acknowledged, that the simultaneous increase of this disease in Ireland, and on the Continent, leads to the inference, that whatsoever may have been its origin, an epidemic constitution prevailed over a great part of Europe during a series of past years.

At the commencement of 1817 various accounts announced, that fever was very prevalent in many parts of the country; and the alarm thereby excited was much increased by the reports of death from typhus, which continually occupied the records of mortality. Of this assertion the newspapers of that year afford evidence, which is the more deserving of credit, as in many places,

accounts tending to excite apprehension were received unfavourably by the public. At first those who foresaw the coming evil, and wished to provide against it, were considered as alarmists; this feeling prevailed as much in many parts of the country as in the capital. Imperfect information, mistaken views, and the fear lest trade and manufactures should suffer if an epidemic fever were reported to prevail, influenced many, either to deny or to conceal the existence of this calamity. This disposition, in some instances, passed into an opposite extreme. Thus, in Tullamore, when measures were proposed for arresting the progress of fever, by the establishment of a fever hospital, so little was the alarm, that the design was regarded by most of the inhabitants as a well-intentioned project, uncalled for by the circumstances of the community: but when the death of some persons of note excited a sense of danger, alarm commenced, which ended in general dismay: military guards were posted in every avenue leading to this place, for the purpose of intercepting sickly itinerants. The town, from the shops of which the neighbouring country is supplied with articles of all kinds, was thus in a state of blockade. It was apprehended that woollen and cotton goods might be the vehicles of infection, and all intercourse between the shops and purchasers was suspended; passengers, who inadvertently entered the town, considered themselves already victims of fever. No person would stop at the public inns, nor hire a carriage for travelling: in a word, all communication between the town and the adjacent country was completely interrupted. Apprehension did not proceed in most other places to the same extent as in Tullamore, although active measures, indicative of alarm, were very generally adopted to obviate danger. The scarcity had greatly increased the number of vagrants and mendicants, to whom the spreading of fever was very generally attributed; and in several places one of the chief means adopted was the

preventing the communication of mendicants with the towns, by warning them to quit the town, or by forcibly opposing their admission.

In Dublin, the alarm excited, when the number of persons attacked daily with fever shewed the disease to have visited the city in its genuine epidemical form, was exemplified in many instances. Placards, commencing with the word "Fever," printed in large characters, and announcing the sale of Thieves' Vinegar, and other supposed preventives, were to be seen posted up in various parts of the city. Camphor, which is thought to possess some prophylactic virtue, was in great demand, and was sold in large quantities. With the continuance of the disease, the opinion of its general diffusion and contagious nature got such hold of the minds of many of the inhabitants, that shop-keepers thought themselves obliged to conceal the existence of fever in their families, from an apprehension of repelling customers, who previously to their entering the shops often made particular inquiry to ascertain if any sickness existed in the house, which, in this case, they conceived it prudent to shun by not even entering the door. At this time physicians engaged in attendance on shop-keepers, were often requested not to drive up to the door, lest the suspicion of fever should be raised, and prove injurious to business. From the same motives, the medical attendants of fever hospitals also, when ordering the removal of patients from the families of shopkeepers or tradespeople, were often solicited by these, not to permit the hospital carriage to drive up to the house, but to receive the sick person at some distance. These vehicles, of a remarkable construction, attended by men wearing a peculiar dress, occupied in conveying to the hospitals from fifty to one hundred patients on each day,

gave a lively impression of the extent and magnitude of the evil which at that time afflicted the inhabitants.

The distress which fever produced at this time may be inferred from the consideration, that when it once seized on an individual, it very generally extended to all the remaining members of a poor family; and when we bring to mind, that under all the circumstances of care and attention, in well regulated hospitals, the duration of each patient's illness and convalescence extends on an average to a fortnight, we can judge of the misery occasioned by fever among people crowded in small and ill-ventilated apartments, and often totally destitute of the comforts or attentions which are peculiarly necessary to recovery from this disease. In the reports made by the Medical Inspectors to the Central Committee of Health appointed by Government, we have numerous examples in the city of Dublin, of severe affliction from the continuance of fever during several months in the same dwellings. In one house eighty cases of fever, including relapses, were said to have occurred in the course of twelve months. Assuming the population of Ireland to amount to six millions, it will be no exaggeration to state, that a million and a half of persons suffered from an attack of fever in the time included between the commencement of the year 1817, and the middle of 1819. This estimate of suffering is founded on reports obtained from personal communication with eye-witnesses in various parts of the country. Thus in Munster the number of sufferers was in some places stated to amount to three-fourths of the whole population. In very few instances did the estimate fall short of one-sixth, and the medium might be said to exceed one-fourth. That the preceding inference has not been deduced hastily will be evident on comparison of the number attacked in Dublin with its population. In the course of two years, commencing

with September 1817, more than 42,000 patients were admitted to the hospitals. Many of these were cases of relapse; a small proportion also consisted of patients from the country around Dublin, who should not be included in an estimate of the proportion which the number of persons attacked with fever in the city bore to its whole population; but to compensate for this, many patients sickened and passed through the disease in their homes, consequently were not included in the returns of sick admitted to the fever hospitals; and we have reason to believe, that the number of such patients much more than balances the number, as well of cases of relapse as of patients from the country. Hence it follows, the inhabitants of the town being estimated at 240,000, that the number of sufferers from an attack of fever at this time must have amounted, at the lowest computation, to between one-fifth and one-sixth of the whole population of Dublin. But in a city under the immediate humane care of a government prompt in devising and applying means of relief, it can scarcely be supposed that the number of the sick was not considerably less than in places remote and comparatively destitute of aid: with such views we shall not probably err in estimating the proportion which those who sickened with epidemic fever in Ireland bore to its total population as that of one to four.

A volume might be filled with instances in proof of the distress occasioned by this visitation of fever, amongst a people already exhausted by the privations consequent on want of employment and scarcity of food. In parts of the country remote from the capital we have heard frequent mention of, and have seen what were termed "fever huts." These were wretched structures of mud or stone, not exceeding four or five feet in height, erected at the road sides, or in the corners of fields, for the purpose of receiving persons attacked with fever, either members

of a family, removed there for the purpose of preventing the extension of sickness, or wretched wanderers in search of food or employment, thus compelled to struggle with a formidable disease on the damp ground, with little covering but the miserable clothing worn by day, and scarcely protected from the inclemency of the weather by the shed of straw or boughs which formed the roof of this wretched habitation.* Although such precautionary measures were adopted by the poor to prevent fever, arising from their conviction of its contagious nature, yet in numerous instances those whom the disease had seized were obliged to occupy the same bed with the healthy, thus extending infection through a whole family; and when several individuals, so circumstanced, had been involved in this calamity, the dead have remained for days by the side of the languishing survivors. Such misery as that described, was, however, limited to remote parts of the country chiefly, and its occurrence could scarcely have obtained credit from us, had we not witnessed events of a similar nature, and was it not confirmed by testimony the most respectable.

In a letter received by the Editors of the Dublin Hospital Reports from Dr. O'Leary, dated Kanturk, June 2, 1818, the following statement occurs:—"Three or four patients have literally died in the street or by the side of the ditches, for many were obliged to sleep in the fields. *Fever huts* were erected on the passage to the church, either on, or near all the public roads and on the *fair* field. One of these remained, occupied by a sick family on the fair day, to the terror of those who attended the September fair. A woman of the family died since, by the ditch side, of a relapse. In ascertaining the persons to be relieved from the go-

* See Reports of the Provincial Inspectors.

“ government charity, I have gone into a hut, where owing
 “ to the lowness of the entrance, I could only feel the
 “ pulse of the four inmates, a father and three children
 “ of the name of Stinton. There were also two grown-
 “ up daughters, who were obliged to remain for several
 “ nights in the open air, not having room in the hut,
 “ till the father died, when the stronger of the two girls
 “ forced herself into his place. On the road leading to
 “ Cork, within a mile of this town, I visited a woman of
 “ the name of Vaughan, labouring under typhus ; on her
 “ left lay a child very ill, at the foot of the bed, another
 “ child just able to crawl about, and on her right, the
 “ corpse of a third child, who had died two days previous-
 “ ly, and which the unhappy mother could not get removed.
 “ When the grant arrived from government I visited
 “ a man of the name of Brahill near the chapel gate, who
 “ with his wife and six children occupied a very small
 “ house, all of them ill of fever with the exception of one
 “ boy, who was so far convalescent as to creep to the door
 “ to receive charity from the passengers. These are a
 “ few of the instances of the wretchedness which prevails in
 “ this town.”

Dr. Osborne of Cork stated, that in one instance, a
 physician in attendance on the poor had to separate two
 children from the bed of their dead brother, the father and
 mother being already in a fever hospital ; in another in-
 stance, he had to remove an infant from the corpse of its
 mother who had just expired in a hovel.

The following is an extract of a communication re-
 ceived by the editors of this work from Mr. Nolan of
 Wicklow, which may also serve to exemplify the distresses
 of the poor in Ireland from the same cause :—“ Previous
 “ to the opening of the hospital many instances of extreme

“misery occurred. I would particularize the following :
“Ellen Fagan, a young woman whose husband was
“obliged, in order to seek employment, to leave her almost
“destitute in a miserable cabin with three children, was
“induced one night to give the shelter of her roof to a
“a poor beggar who, it appears, had fever. The con-
“sequence was, that she caught the disease, and from
“the terror and alarm created in the neighbourhood
“was, with her three children, deserted, except that
“some persons left a little water and milk at the win-
“dow for the children, one about four the other three
“years old, the third an infant at her breast. In this
“way she continued for a week, when a neighbour
“heard of her distress, and sent her a loaf of bread which
“was left in the window. Four days after this he grew
“uneasy about her, and one night he prepared some tea
“and bread, and taking a female servant with him set
“off to her relief. When he arrived, the following scene
“presented itself: in the window lay the loaf where it
“had been deposited four days previously : in one corner
“of the cabin, on a little straw without covering of any
“kind, lay the wretched mother actually dying, and her in-
“fant dead by her side, for want of that sustenance which
“she had not to give ; on the floor lay two children, to ap-
“pearance dying also of cold and hunger ; at first they
“refused to take any thing, and he had to force a little
“liquid down their throats ; in a short time they revived,
“and with the cautious administration of food reco-
“vered the effects of their suffering. The woman ex-
“pired before the visiter quitted the house, who, I am
“happy to add, did not suffer from his humanity.”

It was generally remarked throughout Ireland, that fever did not spread through families in comfortable circumstances ; and indeed it might be asserted, that the danger of such extension diminished accordingly as the persons

visited by sickness were more elevated in society. But this exemption was by no means universal, for the extension of fever occasionally produced much distress, even in families possessed of the comforts or luxuries of life. A remarkable example of this kind is adduced by Dr. Lyne, in his report from Tralee, to which, as given in this volume, we refer our readers. In the house of a lady of fortune, at the distance of about eight miles from that town, he attended twelve patients, of whom three were attacked at the same time, the rest in succession after longer or shorter intervals, and all between the 1st of December 1816, and the 17th of March, 1817. Dr. Atkinson of Armagh, in his reply to queries sent to different parts of Ireland, by the Editors of the Dublin Hospital Reports, gives an instance of the same kind: we quote his words: "I visited a family consisting of fourteen persons about a mile from this city, who live in a large, clean, well-ventilated house, situated near a large rapid river, and who had every comfort. In this family the fever continued during three months, and every person in the family had it: some of them relapsed two or three times. No one died. The family consisted of persons of all ages and sexes, from four years old to seventy." In a family of some rank, resident within a few miles of Dublin, consisting of twelve persons, ten were attacked with this fever within a short time.

Another example furnished to us by a friend of one of the Editors of this work, in whose testimony we can place the most implicit confidence, also proves, that the comforts of life did not give protection from this disease in the South of Ireland. "Mr. L. sought refuge in this country from the horrors of the French Revolution in the year 1790: he became a teacher of the French Language, married, and has since continued to reside in this country. Mr.

“ and Mrs. L. kept a boarding school for young ladies,
“ and a preparatory school for boys; and Mr. L. attended
“ private pupils. They have nine children, the elder of
“ whom are capable of assisting in the school, and having
“ maintained an irreproachable character, they had every
“ reason to hope, that their exertions would enable them
“ to support their family in comfort. But their hopes have
“ been blasted. A servant who had the prevailing fever,
“ and had not been a sufficient time recovered, introduced
“ the infection into the family in January 1819; and
“ during nine months, notwithstanding all the precautions
“ that were taken, the fever has occurred at different
“ periods, during which time the nine children of the
“ family, four of the boarders, two servants, and last of all
“ Mr. L. himself, in all sixteen persons, have been attacked
“ by this dreadful disorder. The consequence has been,
“ that the pupils have been removed, and the private
“ tuitions have been discontinued; that debts have been
“ incurred to support life, and all the means of pay-
“ ing them have been cut off. To increase the evil,
“ for the last three months Mr. L. has had two families
“ to support in different houses, having been obliged to
“ remove those who were well, from the abode of sick-
“ ness, and a length of time must elapse, after his own
“ recovery, before he can resume private tuitions, lest he
“ should be instrumental in bringing upon other families
“ that scourge by which he has so much suffered.”—The
instances here given, and many similar, might be adduced
exemplifying the distress caused by fever, prove that the
disease occasionally spread through the families of the
upper ranks; but such extension of fever was by no means
common; on the contrary it was observed in every part of
the country as well as in Dublin, that in this class of so-
ciety the disease did not in general extend beyond the
individual first attacked. Hence, it would appear that
its frequency was greatest in the lower ranks of society,

and that abundance of food, tranquillity of mind, the advantage of spacious rooms, and above all, the means of keeping the sick apart from the healthy, afforded protection from the epidemic fever. The probability here inferred respecting the comparative exemption from disease enjoyed by persons who possessed the advantages above mentioned, becomes certainty, on referring to the state of the army in Ireland at this time. We are indebted to Dr. Renny, Director-General of Military Hospitals, for access to the "Reports of the sick of the Army on the establishment of Ireland," as submitted monthly to the Lord Lieutenant and the Commander of the Forces. These are so arranged as, with many other interesting particulars, to show the number of acute cases on the 20th day of each month, together with the total number of effective men in the whole Army on the Irish establishment, the first derived from the returns of medical officers, the second from the returns transmitted to the Adjutant General, by officers commanding regiments.— From these we have made such extracts as relate to our subject, and arranged them in the form of a table, from an inspection of which it will appear that the number of sufferers from acute diseases of every kind, including fever, during the last five years, has been remarkably uniform, and that the years when fever was epidemical in Ireland, with the exception of a part of 1816, are not particularly distinguished in this list. The first column of this table gives the dates, the second the number of soldiers labouring under acute diseases on the 20th day of each month, the third column gives the total number of effective men in the Army, and from comparison of these we have calculated the fourth, stating the proportion which the number of men labouring under acute diseases bears to that of effective men in the army at each of the periods there specified. It appears that the number of such sufferers was greatest in 1816, particularly during the

months of spring and summer in that year; but the increase was evidently inconsiderable, and by no means so great as to warrant the opinion that any remarkable epidemic prevailed generally in the Army; and in the subsequent years, when fever had greatly increased in almost every part of Ireland, the army was more free from acute diseases of every kind than it had been in times when fever was not epidemic. But as it might be objected, that the acute diseases here mentioned were chiefly fevers, which at this time superseded all other acute diseases, and were peculiarly fatal, we have annexed another table, constructed by the Director General, which renders it certain, that the mortality in the army during the years 1816, 1817, 1818, and 1819, little, if at all exceeded the average of the last twenty-two years. From inspection and comparison of the tables here annexed, it follows incontrovertibly, either that fever was little, if at all, more prevalent during these years than formerly, or that its effects were not more injurious than those of ordinary acute diseases.

TABLE,

Shewing the number of cases of acute disease, and of effective men in the Army on the Irish Establishment on the 20th day of each month of five years, commencing with 1815, and ending with 1819, both years inclusive.

Date.	Total number of acute cases.	Total number of effectives.	Proportion of acute cases to effectives taken as 1000.
1815,			
January,	354	29903	$8\frac{34}{36}$ nearly to 1000
February,	415	42351	$9\frac{3}{4}\frac{1}{2}$ to Do.
March,	323	35110	$9\frac{2}{3}\frac{5}{5}$ to Do.
April,	353	36614	$9\frac{2}{3}\frac{3}{6}$ to Do.
May,	387	35514	$10\frac{3}{3}\frac{1}{3}$ to Do.
June,	278	28519	$9\frac{2}{2}\frac{1}{3}$ to Do.
July,	294	30063	$9\frac{2}{3}\frac{3}{6}$ to Do.
August,	206	24866	$8\frac{2}{4}\frac{4}{4}$ to Do.
September,	303	36111	$8\frac{1}{3}\frac{4}{6}$ to Do.
October,	390	38844	$10\frac{3}{3}\frac{8}{8}$ to Do.
November,	469	40725	$11\frac{2}{4}\frac{1}{3}$ to Do.
December.	472	41773	$11\frac{1}{4}\frac{2}{4}$ to Do.
1816,			
January,	502	42556	$11\frac{3}{4}\frac{3}{2}$ to Do.
February,	456	43695	$10\frac{1}{4}\frac{2}{3}$ to Do.
March,	501	46918	$10\frac{3}{4}\frac{1}{6}$ to Do.
April,	453	38270	$11\frac{3}{3}\frac{2}{8}$ to Do.
May,	390	27341	$14\frac{2}{7}\frac{7}{7}$ to Do.
June,	367	26719	$13\frac{1}{2}\frac{9}{6}$ to Do.
July,	285	26396	$10\frac{2}{2}\frac{1}{6}$ to Do.
August,	348	26916	$12\frac{2}{2}\frac{5}{6}$ to Do.
September,	285	28274	$10\frac{2}{2}\frac{2}{8}$ to Do.
October,	243	27677	$8\frac{2}{2}\frac{1}{7}$ to Do.
November,	232	27052	$8\frac{1}{2}\frac{5}{7}$ to Do.
December.	273	26775	$10\frac{2}{2}\frac{2}{8}$ to Do.

Date.	Total number of acute cases.	Total number of effectives.	Proportion of acute cases to effectives taken as 1000
1817,			
January,	221	26684	$8\frac{7}{26}$ nearly to 1000
February,	281	26470	$10\frac{1}{26}$ to Do.
March,	219	25148	$8\frac{1}{23}$ to Do.
April,	173	23203	$7\frac{1}{23}$ to Do.
May,	242	25685	$9\frac{1}{25}$ to Do.
June,	230	22739	$8\frac{1}{22}$ to Do.
July,	195	22985	$8\frac{1}{23}$ to Do.
August,	178	23802	$7\frac{1}{23}$ to Do.
September,	214	23697	$9\frac{1}{23}$ to Do.
October,	252	23718	$10\frac{1}{23}$ to Do.
November,	190	23430	$8\frac{2}{23}$ to Do.
December.	191	23203	$8\frac{2}{23}$ to Do.
1818,			
January,	194	22953	$8\frac{1}{22}$ to Do.
February,	230	22238	$10\frac{1}{22}$ to Do.
March,	207	22277	$9\frac{6}{22}$ to Do.
April,	173	22393	$7\frac{1}{22}$ to Do.
May,	185	22408	$8\frac{1}{22}$ to Do.
June,	143	20748	$6\frac{1}{20}$ to Do.
July,	133	21164	$6\frac{1}{21}$ to Do.
August,	159	20583	$7\frac{1}{20}$ to Do.
September,	203	20657	$9\frac{1}{20}$ to Do.
October,	156	20670	$7\frac{1}{20}$ to Do.
November,	152	20650	$7\frac{1}{20}$ to Do.
December.	142	19496	$7\frac{1}{19}$ to Do.
1819,			
January,	124	19055	$6\frac{2}{19}$ to Do.
February,	160	20239	$7\frac{1}{20}$ to Do.
March,	172	20024	$8\frac{1}{20}$ to Do.
April,	161	20039	$8\frac{6}{20}$ to Do.
May,	185	19237	$9\frac{1}{19}$ to Do.
June,	187	19087	$9\frac{1}{19}$ to Do.
July,	124	18713	$6\frac{1}{18}$ to Do.
August,	122	19115	$6\frac{1}{19}$ to Do.
September,	121	18427	$6\frac{1}{18}$ to Do.
October,	156	18450	$8\frac{1}{18}$ to Do.
November,	109	18495	$5\frac{1}{18}$ to Do.
December.	140	18436	$7\frac{1}{18}$ to Do.

TABLE,

Shewing the average number of effective men and of deaths in the Army on the establishment in Ireland, from 1797 to 1819, both years inclusive, as supplied from returns made to the Adjutant-General's Office.

Years.	Average Number of Effectives.	Total of Deaths in each year.	Proportion between the deaths and effectives in each year	Proportion of deaths to effectives taken † as 1000
1797	40907	674	1 in 60 ⁴ ₇₄	16 ¹ ₂ to 1000
8	53036	*825	1 in 64 ² ₈₂	15 ² ₉ to Do.
9	60871	1165	1 in 52 ¹ ₆₀	19 ⁸ ₆ to Do.
1800	54396	1121	1 in 48 ¹ ₅₄	20 ³ ₅ to Do.
1	62009	1107	1 in 56 ¹ ₆₂	17 ⁵ ₆ to Do.
2	37008	455	1 in 81 ⁴ ₃₇	12 ¹ ₃ to Do.
3	29753	492	1 in 60 ² ₂₉	16 ¹ ₅ to Do.
4	53578	1102	1 in 48 ¹ ₅₃	20 ³ ₅ to Do.
5	51198	678	1 in 75 ³ ₅₁	13 ² ₇ to Do.
6	46652	760	1 in 61 ² ₄₆	16 ¹ ₃ to Do.
7	52890	813	1 in 65 ¹ ₅₂	15 ³ ₅ to Do.
8	53935	1025	1 in 52 ¹ ₅₃	19 ⁸ ₆ to Do.
9	40640	583	1 in 69 ³ ₄₀	14 ¹ ₄ to Do.
1810	43248	590	1 in 73 ³ ₄₃	13 ² ₇ to Do.
11	47886	642	1 in 74 ³ ₄₇	13 ² ₇ to Do.
12	44778	610	1 in 73 ² ₄₄	13 ² ₇ to Do.
13	39685	439	1 in 90 ¹ ₃₉	11 ² ₃ to Do.
14	44305	679	1 in 65 ¹ ₄₄	15 ³ ₄ to Do.
15	35866	520	1 in 68 ⁵ ₃₅	14 ¹ ₃ to Do.
16	32382	528	1 in 61 ¹ ₃₂	16 ³ ₉ to Do.
17	24255	302	1 in 80 ² ₂₄	12 ¹ ₀ to Do.
18	21353	294	1 in 72 ¹ ₂₁	14 ¹ ₆ to Do.
19	19110	201	1 in 95 ² ₁₉	10 ⁹ ₉ to Do.

* The men killed in the Rebellion of 1798, or who died of their wounds, are not included in the above number of 825.

† This column has been added by the Editors.

Information still more precise and satisfactory than is furnished by the preceding tables may be obtained from the foregoing Reports. These, from which we have been permitted to make every extract connected with this subject, contain no mention of fever as a predominating disease during the early part of the year 1816. The first notice of it occurs in the report of November 1816: in this we find the following passage:—"Letters from Galway, of a late date, mention the prevalence of typhous fever to some extent in that town and neighbourhood, which had terminated fatally in many instances, and had excited a good deal of alarm. I am happy to be able to report, that an officer and several soldiers of the 2d battalion of the 12th foot, who were seized with this fever, recovered, although from the beginning, the disease had in all of them assumed a very malignant aspect." In the commencement of this report it is mentioned, that the total number of sick had decreased twenty-eight, and that the army enjoyed a good state of health in every quarter of Ireland."—From the next report, namely, for Dec. 1816, we extract the following passage: "An inspection of the first column of this report will shew that the 8th, 16th, 2d Battalion of the 37th, 82d, and 97th regiments, have a considerable number of acute cases of disease, consisting principally of nervous fever, catarrh, dysentery, and ophthalmia; the total of deaths, however, which have occurred in the army during the last month, has been small, and chiefly confined to chronic ailments."

In the month of January 1817, we find it thus reported: "The army at large enjoys good health. In a few regiments typhous fever, dysentery, and catarrh have terminated fatally, although the total number of acute diseases has decreased fifty-two since the 1st of December." Similar reports were made as to January and February of

1817; in the latter month it was stated, that "of thirty-two deaths, which is somewhat above the usual monthly average, eight only have been caused by fever, the remaining twenty-four having occurred from consumption and chronic ailments." In the report for March we find that "the army continues to enjoy good health in every part of Ireland, and of twenty-four deaths, eight have proceeded from acute, and sixteen from chronic diseases." In the month of April we have evidence of some frequency of fever in the army, for the report states, that in the 81st regiment of foot ten cases of fever existed; and that "the 44th, 50th, 77th, and 96th regiments have a good many men ill of typhous fever, which their medical officers think has been introduced amongst them by contagion, as this species of fever prevails extensively in the neighbourhood of the quarters of these corps, as well as in many other places through the interior of Ireland. As yet the army has suffered but little, although I can assert from good authority that, in the districts of the country, especially the north, the mortality from fever has been considerable among the lower order of inhabitants." In the two subsequent months, May and June, the report states that "the army at large continues to enjoy good health, at a time when the lower class of inhabitants has suffered so severely from contagious fever, as this disease has appeared in a few regiments only in a mild form, and to a small extent." From the report for September also we extract the following passage: "It appears that fever has somewhat increased. The disease, however, still continues to assume a mild aspect, and readily yields to the usual remedies, as the total mortality which has occurred in the army during the last month, has amounted to nineteen only, viz. ten from fever, seven from chronic complaints, and two suddenly from apoplexy. On the whole, the army may be said to enjoy good health, as neither the total of acute diseases nor deaths amounts to

the average of former months or years." In the month of December 1817, according to the same report, the total number of patients labouring under fever amounted to eighty, and eighty more were convalescent; eleven deaths from fever had occurred, the remainder from other diseases."

Thus we have extracted from these reports the chief facts relative to the prevalence of fever in the army, down to the end of 1817. In the following year, when fever was extremely prevalent in almost every part of Ireland, our information derived from the same sources becomes still more satisfactory, inasmuch as in addition to the total number of casualties, the particular causes of death have been also reported. Hence we can determine in what proportion fever operated to produce mortality when compared with other diseases, and by simple calculation ascertain how far the army suffered from fever when prevailing epidemically in Ireland. The reports of such casualties we have put in a tabular form, by comparison of which with the table at page 73, we obtain the required information.

TABLE exhibiting the mortality in the army, &c. &c. two years, from the 21st of December 1817, to the 20th of January 1819.

Months.	Fever.	Dysentery.	Small Pox.	Consumption and Chronic diseases.	Asst. in.	Lock jaw.	Mecles.	Inflammatory sore throat.	Uterus.	Syphilis.	Haemoptysis.	Discased Liver.	Discased Heart.	Lumbar Abscess.	Apoplexy.	Cystitis.	Diarrhaea.	Inflammation of the intestines.	Psoas Abscess.	Jamnic.	Erysipelas.	Inflammation of the Lungs.	Purpura.	Haemorrhage.	Debility.	Accidents.	Total.
January 1818,	6	1	1	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
February,	15	1	1	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	34
March,*	7	1	1	14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	31
April,	8	1	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28
May,	8	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12
June,	2	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12
July,	2	1	1	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
August,	3	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
September,	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
October,	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
November,	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
December,	1	1	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
In twelve months	49	17	2	98	1	1	3	1	5	2	1	4	1	1	3	1	1	1	1	1	1	1	1	1	1	1	239
January 1819,	5	1	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
February,	4	1	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
March,	10	1	1	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	27
April,	5	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18
May,	3	1	1	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
June,	3	1	1	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
July,	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11
August,	2	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9
September,	1	1	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
October,	4	1	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9
November,	1	1	1	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13
December,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
In twelve months	39	11	1	65	1	1	1	2	4	2	7	1	1	1	4	1	1	5	1	1	1	4	1	1	1	1	174

* The gross amount only of the fatal events has been given in this month, the particular causes of death having been omitted, the number 7 therefore under the head fever is merely conjectural, being the mean of the two months preceding and subsequent. The same remark applies to August 1819. Any error in these numbers must be immaterial.

HISTORICAL SKETCH OF

The total number of deaths, as indicated by this table, framed from the returns of the regimental Surgeons, is less than that given in the table of returns from the Adjutant-General's-Office, because the regimental Surgeons reported those deaths only which came within their own knowledge, or which occurred in the regimental hospitals; but the returns from the Adjutant-General's-Office comprehend all casualties whatsoever, including those which took place on outposts, or among the soldiers on furlough, or absent from other causes. Now, by assuming that the deaths occasioned by fever and by all causes whatsoever, bear to each other the same proportion, both in the regimental returns and in those from the Adjutant-General's Office, we shall probably obtain a sufficient approximation toward the whole mortality caused in the army by fever during its epidemic prevalency, and thence we may form an estimate as to the frequency of this disease in the army compared with the population of the country at large, during the same period. Thus, in the year 1818, the total number of casualties from all causes bears to those from fever, the proportion of 4.87 to 1, as given in the regimental returns. For $239 : 49 :: 4.87 : 1$. But as the total of casualties in that year, according to the returns from the Adjutant-General's-Office, amount to 294 instead of 239, the casualties from fever should amount to 60 nearly instead of 49; for $4.87 : 1 :: 294 : 60.37$. In the following year the total number of casualties as returned by the regimental Surgeons, bears to those from fever the proportion of 4.46 to 1. For $174 : 39 :: 4.46 : 1$. But the casualties from all causes in that year, as returned from the Adjutant-General's Office, being 201, those from fever should be 45 instead of 39; for $4.46 : 1 :: 201 : 45$ nearly. Thus in the year 1818, the casualties from fever may be rated at 60, and in 1819 at 45, and in both years taken conjointly at 105. Now by ascertaining the proportion between the numbers of those who died of fever and of those who were attacked by that

disease, we can obtain a sufficient approximation toward the actual number of the latter sufferers, and thus determine the frequency of fever in the army compared with the country at large. It is above stated, that in one month the total number of fever patients, including convalescents, in the different regiments on the Irish establishment, amounted to 160, and that 11 deaths from fever had occurred, or a little less than one-fourteenth part of the total number attacked. But this probably much exceeds the average mortality, for we find in the report for January 1819, that the total number of fever cases in the preceding month amounted to 111, and the deaths from fever to five; the deaths in this instance constituting only a 1-22d part of the whole number attacked: but the fever patients admitted to the King's Military Infirmary Dublin, in two years, commencing with 1816, amounted to 848, of these 28 died, or about one in thirty. We may then assume safely, or with little risk of error, that the deaths formed a 1-26th part of the total number attacked; consequently in the years 1818, 1819, the deaths in the army caused by fever amounting to 105, the total number attacked by this disease may be estimated at $105 \times 26 = 2730$; and the number of troops on the Irish establishment, somewhat exceeding 20,000, at that time, the number attacked with fever during two years must have constituted between 1-7th and 1-8th of the whole army. But we have already stated, that at least 1-4th of the people of Ireland had suffered from an attack of fever during the time of its epidemic prevalence. It follows, therefore, that fever was at this time less prevalent in the army than in the population at large by the difference between 1-7th or 1-8th and 1-4th, or that its prevalence was nearly twice greater among the inhabitants than the army. Thus, whatsoever view we take of this subject, whether we estimate from the gross numbers of acute cases in each month, or from the total number of deaths which have occurred in each year since 1797, or

still more correctly, determine by calculation the number attacked with fever in the army during the two last years, we are led to the conclusion, that, whilst fever prevailed as an epidemic in almost every part of Ireland, the army suffered comparatively little from this disease. This immunity is the more remarkable, when we refer to the effects of fever in the army during the former epidemic in 1800, 1, and 2, and during some time previously, as already recorded at page 13 and 14 of this volume; for, in this epidemic the army suffered greatly, and it appears from the returns then obtained, that more deaths, chiefly from fever occurred in three regiments containing 2620 men in the year 1800, than in the whole army, exceeding 20,000 men, during the epidemic fever of 1816, 17, and 18. The causes of the comparative infrequency of fever in the latter period well deserve attention, and are to be sought for in the different circumstances of the inhabitants of Ireland, and of the army at these times. During the former epidemic in 1800, 1 and 2, few fever hospitals existed in this country, the sick remained in their homes, and extended infection to the soldiery, with whom their communication must have been much more general at that time than of late years, as since the year 1802, barracks have been generally erected throughout Ireland for the accommodation of the army, and their separation from the inhabitants. The accommodation in hospital also, for the sick of the army, is now much better than formerly; thus, various causes have contributed of late years to render disease less injurious to the soldiers, and the consequences have been such as from the measures resorted to might have been expected.

From the facts adduced in the preceding narrative, it is evident that those persons, who in their modes of life approached to the higher ranks of society, suffered less from the frequency of fever than the poorer classes. The

causes of such exemption from disease, were derived from superior cleanliness of persons and dwellings, more ample supply of clothing, diet of a more nourishing and stimulating kind, but above all, from spacious apartments; these, by admitting of a more complete separation of the sick from the healthy part of the family, are productive of the advantage that individuals who have hitherto escaped disease are not compelled to remain during the greater part of the night when the system is perhaps most susceptible of infection, exposed to febrile effluvia within a space so contracted that the air is little more than sufficient to support life.

Before we take leave of this subject, we submit to the reader a table, from which chiefly we have formed our estimate of the frequency of fever throughout Ireland; we by no means consider this document complete or satisfactory. The gentlemen to whom we are indebted for our information, have supplied us with correct statements as far as circumstances would permit; but there are various sources of inaccuracy, for which allowance must be made: in many towns and districts the extent of the population is imperfectly known, no census having been taken for several years; it was in some places difficult to ascertain the duration of the epidemic; relapses increased the number of the sick, although we have reason to think, in general not very considerably, and somewhat affected our calculation. The number of patients out of hospital, as given in the 5th column of this table, was often merely conjectural; and finally, dysentery and other febrile diseases, in some places occurred to a considerable extent, and in a few instances, were included in the returns of fever. On the other hand, in computing the numbers of those who remained out of hospital, we have taken a low estimate, hence it seems not impro-

bable that our inference respecting the prevalency of fever in Ireland is a near approximation to the real state of the case.

TABLE,
Showing the estimated frequency of Fever in different
parts of Ireland.

MUNSTER.

Place.	Informant.	Population.	No. of Sick received into Hospital.	Computed No. of Sick out of Hospital.	Remarks.
Waterford	Physicians of Fever Hospital and Committee.	33,000	6314	2100	In Passage, according to Dr. Mackesy, one-third of the houses had patients in Fever at one time, viz. Feb. 1817.
Tallow -	Dr. Hannan.	6000?	207	1800	Dr. Hannan stated that one-third of the population of Tallow suffered.
Youghal -	Dr. Dartnel, Dr. Rogers.	8,000	591	1183	See return No. 5, vol. 2, p. 52.
Cork -	Editors.	100,000	17,749	9000	Physicians well informed on this point affirmed that a much greater number were affected with Fever in Cork during the Epidemic.
Bandon -	Drs. Jenkins, Clarke, and Harris.	14,000	1178	6000	Dr. Jenkins said that in the country around Bandon not one-third escaped. Dr. Clarke said at least one-half were attacked.
Fermoy -	Drs. Campbell, Macnamara, Murphy, and O'Neill.	5000	441	662	One-third of the population, according to one professional gentleman; according to another, one-fourth around Fermoy was affected.
Cashel -	Editors.	5500	713	350	
Templemore	Mr. Kingsley.	1500	252	431	
Cahir -	Mr. Beale.	5000	643	1300	

MUNSTER—(Continued)

Place.	Informant.	Population.	No. of Sick received into Hospital.	Computed No. of Sick out of Hospital.	Remarks.
Carrick-on-Suir	Rev. Mr. Grady, Dr. Williamson.	12,600	1200	600	
Cappoquin -	Mr. Allen.	2000	409	300	
Killarney -	Physicians of Killarney.	10,000	1847	1500	Dr. Murphy affirmed that scarcely a house in the town of Killarney escaped.
Tralee -	Physicians of Tralee.	9500	1200 Dr. Mawe.	2000	Dr. King states that one-third of the population of Tralee was affected with Fever.
Listowel -	Mr. Church.				Scarcely a house escaped.
Limerick -	Physicians.	75,000?	10,000	5000	According to Dr. Geary, one-fourth of the inhabitants of Limerick was attacked.
Clonmiell -	Physicians.	15,000	2775	2000?	Mr. Burgess thought that not more than one-fourth escaped. Mr. Grubb thought one-half. Mr. Worral from one-third to one-half.
Total, -	- - -	293,700	45,010	34,226	

CONAUGHT.

Place.	Informant.	Population.	No. of Sick received into Hospital.	Computed No. of Sick out of Hospital.	Remarks.
Boyle - -	Late Dr. Verdon.	4000		882	This report extends only to June 1818.
Carrick-on-Shannon - -	Mr. Brady.	1500		534	
Athlone -	Dr. Comins.				300 families in fever were supplied with medicine from the Athlone Dispensary; the population 8400.
Total -	- - -	5500	...	1416	

ULSTER.

Place.	Informant.	Popula- tion.	No. of Sick received into Hospital.	Computed No. of Sick out of Hospi- tal.	Remarks.
Downpatrick	Dr. Nevin.	5000		2500	Computed by the Physicians.
Belfast -	Dr. McDonnell.	30,000	3600	6000	
Armagh -	Dr. Ryan and Dr. Kidd.	7010	163	1800	In the city of Ar- magh there were 250 sick of fever at one time.
Monaghan -	Dr. Clarke.	6200	1337	1000	
Kildress -	Do.		190	1112	See page 123 of vol. 2
Dungannon -	Do.		211	1663	1400 persons are said to have died of fever in the parishes of Ter- mon and Pomeroy, in this district. Editors.
Strabane Dispen- sary district.	Dr. Rogan.	16,258		4167	See Dr. Rogan's observations on fever, p. 72.
Marquis of Aber- corn's estates.	Do.	14,038		5038	See Do. p. 73.
Total -	- -	78,506	4500	20,555	

Note.—Kildress and Dungannon are not included in the total of Ulster, their popu-
lation being unknown to the Editors.

LEINSTER.

Place.	Informant.	Popula- tion.	No. of Sick received into Hospital.	Computed No. of Sick out of Hospi- tal.	Remarks.
Arklow -	Dr. Johnston.	9000	293	461	
Newtown-mount. Kennedy -	Dr. Wilson.				It went the round of every family in the neighbourhood.
Dundrum -	Dr. Burke.				In the Dublin mountains scarcely a cabin escaped.
Wicklow -	Mr. Nolan.	2000	277	140	

LEINSTER—(Continued).

Place.	Informant.	Population.	No. of Sick received into Hospital.	Computed No. of Sick out of Hospital.	Remarks.
Rathdrum and neighbourhood	Mr. Clarke.	10,500	1053	4000	Mr. Clarke observes that, "one-half" at least of the population was visited by the epidemic during the years 1817, 1818.
Gorey -	Dr. Hamilton.	1200	365		Dr. Hamilton computes the sick in the town and vicinity at 1200.
New Ross -	Dr. Drapes.	6000	980		Dr. Drapes states that almost all paupers were received into hospital.
Wexford and adjoining parishes	Drs. Lane and Renwick.	20,084	640	640 at least.	At Enniscorthy it was affirmed that fever was much more prevalent in the country parts than in the towns.
Kilkenny -	Dr. Ryan and Mr. Pack.	25,000	1850	2775	
Carlow and Graigue -	Dr. Maharg.	8000	311	2000	According to Dr. Maharg, these cases occurred in the town of Carlow, between Jan. 1st 1818, and Feb. 1st 1819.
Tullamore -	Mr. Pierce.	5000	387	250	
Abbyeleix -	Mr. Boxwell	4000	200	900	
Portarlinton and Portinchinch barony -	Dr. Harte and Dr. Ferris.	24,000	915	300	
Monastereven	Editors.	4000		1100	
Kells -	Dr. Byron and Mr. Nelligan	5175	433	1200	
Navan -	Dr. Brown.	4000		1000	
Ardee -	Mr. Runcle.	4500		1500	
Dublin -	Editors.	240,000	40,000	20,000	This number excludes those patients who were taken into hospitals from the country.
Total -	- - -	372,457	47,718	31,200	

The most striking part of the distress caused by the epidemic fever now claims notice, namely, the destruction of human life which attended it. In viewing this subject, it is satisfactory to find that the mortality rarely proceeds at the same rate with the frequency of fever. This is observable on comparison either of different successive years, or of different periods of the same epidemic. Thus, if a table be formed, comprising the admissions of febrile patients and the deaths caused by fever, during the last fifteen years in the principal fever hospitals of Dublin, together with those of Cork and Waterford, it will be found that in proportion as fever became more frequent its mortality diminished.

EPIDEMIC FEVERS IN IRELAND.

87

Table exhibiting the proportion of Deaths to Admissions in some of the principal hospitals of Ireland, during the last fifteen years.

Year.	Dublin, Cork-street.			Hospitals of House of Industry, Dublin.			Cork.			Waterford.			Grand Total.		
	Patients admit- ted.	Patients died.	No. of deaths to ad- missions taken as 1000.	Patients admit- ted.†	Patients died.	No. of deaths to ad- missions taken as 1000.	Patients ad- mitted to the chief hospi- tals in Cork.	Patients died.	No. of deaths to ad- missions taken as 1000.	Patients admit- ted.	Patients died.	No. of deaths to ad- missions taken as 1000.	Total admit- ted.	Total died.	No. of deaths to ad- missions taken as 1000.
1805	1054	67	65 in 1000	709	58	81 in 1000	200	7	35 in 1000.	297	52	74 in 1000.	2230	154	69 in 1000.
1806	1264	103	81 in do.	1276	145	113 in do.	441	13	59 in do.	165	14	84 in do.	3146	275	87 in do.
1807	1100	92	83 in do.	1389	156	121 in do.	192	4	20 in do.	166	12	72 in do.	2747	264	98 in do.
1808	1071	94	83 in do.	1473	210	142 in do.	232	7	20 in do.	157	14	88 in do.	2935	325	110 in do.
1809	1051	83	78 in do.	1129	186	164 in do.	278	6	21 in do.	232	19	85 in do.	2680	294	109 in do.
1810	1774	154	86 in do.	1388	150	136 in do.	432	17	39 in do.	410	22	53 in do.	4004	383	95 in do.
1811	1471	115	79 in do.	1218	197	161 in do.	646	19	29 in do.	331	22	66 in do.	3666	339	96 in do.
1812	2265	166	73 in do.	2006	274	136 in do.	617	13	21 in do.	323	24	74 in do.	5211	339	65 in do.
1813	2657	164	62 in do.	1870	216	115 in do.	550	26	47 in do.	252	13	51 in do.	5299	419	79 in do.
1814	4392	143	59 in do.	2056	178	87 in do.	845	27	31 in do.	175	13	74 in do.	5438	361	66 in do.
1815	2780	187	49 in do.	2451	264	107 in do.	717	21	29 in do.	403	26	64 in do.	7351	458	67 in do.
1816	2703	173	62 in do.	1669	158	92 in do.	1056	37	36 in do.	507	25	81 in do.	5765	573	64 in do.
1817	5652	331	62 in do.	2755	214	77 in do.	4866	104	33 in do.	980	34	36 in do.	12233	643	52 in do.
1818	7608	523	53 in do.	18408	772	41 in do.	10408	301	28 in do.	2729	109	39 in do.	38039	1435	36 in do.
1819	3921	223	56 in do.	† 7374	562	49 in do.	2788	77	27 in do.	2655	115	42 in do.	16739	777	46 in do.
Total	57,733	2243	59 in do.	47,041	3560	75 in do.	24,238	739	30 in do.	9592	484	50 in do.	118081	6893	58 in do.

† The numbers in this column do not correspond exactly with those of the former table at page 53. We have reason to believe the numbers here given to be the most correct. The admissions in 1818 include those received into Dr. Steevens's Hospital.

‡ The admissions into the Tabbot Hospital are included in this return.

Inspection of this table, exhibiting the results of fifteen successive years, will shew, that the mortality did not increase in proportion to the frequency of fever, and that during its epidemic prevalence the mortality little exceeded one-half of the ordinary rate. The greater mildness of the disease, when pure and unmixed, and the predominancy of fever of this kind excluding from hospitals the same disease under more complicated and of course more dangerous forms, will sufficiently explain the diminished mortality above noticed in the registries of these establishments. This is confirmed by reference to the table, which shows that the mortality in the Fever Hospital of the House of Industry exceeded that of other hospitals in Dublin; for this Institution was the chief receptacle of the aged, when labouring under diseases of a mixed nature assuming the form of fever, and such patients were admitted, not only from the whole of the great asylum for paupers to which it belongs, but also from the city and its vicinity; hence the records of the hospitals of the House of Industry generally exhibit a greater mortality than those of other hospitals in Dublin. Consistently with these views, we find that in proportion as fever became epidemic, and excluded other diseases from the fever hospital of the House of Industry, its mortality became nearly equal to that of other similar establishments. It is also evident, that fever hospitals do not afford a perfectly just criterion of the rate of mortality, except at those times when fever is so prevalent as to exclude other diseases.

It is a general remark, that epidemic diseases are most fatal on their invasion; and in conformity with experience, and with the above assertion respecting the mortality compared with the frequency of these diseases, we find that the late epidemic fever was most mortal at its commencement: this is proved, by reference to various docu-

ments. Thus it appears, from a tabular view of the admissions to the fever hospital in Cork-street, published in the Medical Report of that hospital for the year 1817, and dated October 1st, 1818, that the mortality decreased from 62 in 1000, to 31 in 1000. This diminution of the mortality is still more satisfactorily established, in the recapitulation of the number of fever patients admitted to all the Dublin hospitals, as annexed to the Reports of the Inspectors appointed by the Lord Lieutenant, and given at page 172 in volume the second: this shows the number of deaths to have diminished from between one fifteenth and one sixteenth, or about 64 in a 1000, to between one eighteenth or one nineteenth, or about 54 in a 1000, of the patients admitted to the hospitals. Indeed both in Dublin and Cork, the number of deaths compared with the patients admitted, appears to have been greatest about the latter part of 1817; the mortality then decreased, and within a short time of the period when fever had attained its greatest frequency, the number of those who died in hospitals was least in proportion to those who sickened. We here speak of the comparative mortality alone, for the actual mortality generally increased with the number of the sick; this will be manifest on reference to the returns as made to Government, and given at pages 172, 173, 174 of volume the second. Thus the epidemic fever of 1817-18 and 19, resembled other great epidemic diseases, which have in general been most mortal at their invasion, and milder towards their close. A similar progress was observable in the great epidemic fever which prevailed in this country in the years 1800 and 1801.

In Dublin, when the epidemic had completely established itself, the males admitted to hospital were most numerous, but in its progress the admissions of

* See page 50, of Medical Report.

females exceeded those of males : more males than females died in proportion to the number of each sex admitted to hospitals. We believe that at all times fever, particularly when it assumes a severe form, is more fatal to men than to women.

The remark as to the greater prevalence in the male sex of fever when it commenced epidemically, is not limited to Dublin; a similar observation was made in Downpatrick by Dr. Nevin, and we have also the authority of Dr. Grogan of Limerick, for asserting that, in the higher ranks of society at its commencement, men were more frequently attacked than women. Among the males admitted into Cork-street hospital during fifteen months, beginning with January 1817, the number of deaths amounted to one in sixteen nearly, or 62 in 1000; and amongst the females to one in twenty and a fraction, or 49 in 1000. This will appear on inspection of the annexed table.

As to the comparative frequency of fever in the male and female sex, in the country at large, we can form no decisive opinion, the answers to our inquiries on that head not having been perfectly satisfactory.

A Statement of admissions, &c. to the Fever Hospital Cork-street, Dublin, from the 5th Jan. 1817, to 30th April 1818, in periods of ten days.—See Report of the Cork-street Fever Hospital, dated October 1818.

			Admitted.			Died.						Admitted.			Died.		
			Males.	Fem.	Total.	Males.	Fem.					Males.	Fem.	Total.	Males.	Fem.	
1817.									1817.								
Jan.	5								Br. up	1327	1353	2680	104	74			
to	15	29	30	59	5	2			Nov. 11	68	52	120	7	3			
	25	32	36	68	5	3			21	86	64	150	3	4			
Feb.	4	29	34	63	7	1			Dec. 1	91	81	172	3	4			
	14	35	22	57	7	2			11	79	86	165	5	7			
	24	52	39	71	2	4			21	86	80	166	3	4			
Mar.	6	27	26	53	4	2			31	84	89	173	7	6			
	16	30	28	58	3	2			1818 to								
	26	35	41	76	0	3			Jan. 10	92	82	174	9	6			
Apr.	5	42	55	97	5	3			20	72	79	151	5	1			
	15	39	29	68	2	2			30	93	79	172	5	2			
	25	58	49	87	1	2			Feb. 9	82	84	166	4	2			
May	5	58	38	76	2	3			19	99	96	195	5	3			
	15	52	61	113	2	7			Mar. 1	89	92	181	2	3			
	25	54	41	95	2	1			11	88	72	160	2	5			
June	4	58	48	86	3	4			21	93	84	182	3	6			
	14	47	55	100	4	5			31	91	89	175	4	1			
	24	51	47	98	3	2			Apr. 10	80	87	167	3	4			
July	4	44	54	98	4	5			20	95	78	173	3	3			
	14	26	39	65	1	3			30	88	122	210	2	3			
	24	46	45	91	3	2											
Aug.	3	40	52	92	2	2				2883	2849	5732	179	141			
	13	47	37	84	6	1											
	23	47	63	110	2	1											
Sept.	2	39	36	75	2	1											
	12	54	68	122	5	1											
	22	64	61	125	4	1											
Oct.	2	68	57	125	4	4											
	12	67	48	115	6	1											
	22	75	57	132	4	1											
Nov.	1	62	59	121	4	3											
		1327	1353	2680	104	74											

Proportion of
Deaths,—Males 1 in 16—1-9th
Fem. 1 in 20—1-5th

Average of Males
and Females, 1 in 18 nearly.

The epidemic fever appeared in Dublin in September 1817, and the preceding tabular view shows that men in hospital were the chief sufferers at its commencement, with respect both to frequency and mortality. It should be observed, that females generally constitute the greater number of the patients admitted to the hospital in Cork-street.

The danger from epidemic fever, as from most other diseases, increases with the age of the patient; and, conformably with this observation, few children comparatively became its victims. From the 16th of September 1817, to the 15th of September 1819, 12422 patients were admitted to the Fever Hospital in Cork-street, Dublin, of whom 1234 were under ten years of age, and of these 46 died. The total number who died in the hospital, during that time, being 512.

The increased mortality from fever was not limited to the larger towns. Dr. Ryan of Armagh reports, that he had examined the funeral registry of the Cathedral of Armagh, and ascertained the number of burials during three years, including 1817, to have been as follows:

From Jan. 1st, 1815, to Dec. 31st, 247 burials.

Jan. 1st, 1816, to Dec. 31st, 312 do.

Jan. 1st, 1817, to Dec. 31st, 571 do.

According to another return, obtained from Dr. Barclay, for the following year, from the 1st May to 25th December 1818, the total number of burials in the Church-yard amounted to 463.

Of these died of fever	-	165
Of small pox	-	180
Of other diseases	-	118
Total	-	<hr/> 463

In some parts of the country there were no means of ascertaining the number of deaths, except from the number of coffins supplied by the parish. We have been informed by the Rev. Dr. Nash, that in the parish of Ardstraw in the county of Tyrone, during the prevalence of epidemic fever, the number of coffins given to paupers in eighteen months amounted to 504, the inhabitants being about 20,000; and in one small townland near Moyle, 27 persons died in the course of a few weeks.

The increased mortality occasioned by fever in the province of Conaught, is well exemplified by some parochial returns, with which we have been favoured by our correspondents. Thus, in the parish of Croghan, the mortality in 1817 was double that of some preceding years. In the parish of Fenagh, the mortality of Protestants was four times greater than that of preceding years. In Carrick-on-Shannon the number of deaths during the year 1817, as taken from the registry, was 274; the greatest number of deaths in any of the eight preceding years being 100. In the county of Roscommon the mortality of adults in three parishes, as obtained from the parish clergymen, was as follows:—Fuerty parish 70, being an excess of 39 over the preceding year. Athleague 35, being an excess of 23. Kilbride 80, being an excess of 49: Kilbride contains 1300 inhabitants. In the county of Galway, in the parish of Spiddle, which contains 2500 inhabitants, 84 persons died of the fever in the space of eleven months, during the year 1817.

Respecting the mortality in the country at large, some information may be obtained from a synoptical view which we have given of the reports of the Medical Inspectors at page 193 of volume the second. As the results are there derived from more than one hundred thousand cases, and as the severity of the cases sent into hospital may be sup-

posed to have compensated for the advantages derived from regular medical treatment, it is highly probable that the mortality in the hospitals differed little from that in the whole country.

The proportion of deaths to admissions in hospitals is that of 1 to $23\frac{710}{4349}$, or nearly that of $43\frac{17}{88}$ in 1000; hence it follows, agreeably with the statement given at page 62 of the number attacked with epidemic fever in the whole country, and estimated at one million and a half, that at least 65,000 persons became its victims during its prevalence in the years 1817, 1818, and 1819. This estimate is formed on the supposition that in hospital the number of deaths was the same in proportion to the number of the sick, as it was out of hospital; and this appears to be rather a favourable view of a question on which it is impossible to decide with rigid exactness.

It is right to state, that the above estimate falls short of that furnished by several of our correspondents, and is much below that of Dr. Rogan, as given at page 72 and 73, of his valuable work on epidemic fever; but the number of deaths varied much in different parts of the country; and the most accurate mode of arriving at truth, on the whole, appears to be that which we have adopted.

On comparing the rates of mortality in the different provinces, as stated at page 193 of vol. 2d, we find the number of deaths to have been greatest in Ulster, next in Leinster,—in Munster a little less, the two last being nearly equal, and least of all in Conaught. Thus in Ulster the mortality amounted to 1 in $20\frac{22}{43}$, Leinster 1 in $23\frac{2}{43}$, Munster 1 in $23\frac{20}{44}$, Conaught 1 in $25\frac{23}{47}$. Or the proportion in 1000 will be for Ulster, $47\frac{69}{1}$; Lein-

ster $43\frac{3}{6}$; Munster $42\frac{2}{3}$; Conaught $39\frac{5}{4}$. Hence it follows, that the mortality was greatest in Ulster, and least in Conaught; the difference amounting to one-sixth of the greater number. Leinster somewhat exceeded Munster; but in each of these provinces the mortality was nearly the medium of the whole. It should be observed that this estimate is formed from returns which terminate in March 1819, when epidemic fever had subsided in most parts of Ireland. The causes of the difference of mortality above noted it is not easy to assign. It deserves remark, however, that the deaths were most numerous in the Eastern and Northern provinces of the kingdom; indeed it would appear from the table given at p. 87, and from other facts which have reached us, that fever is a milder disease in the Southern than in the Northern parts of this country. We would here ask the question, has this arisen from a difference of climate, of diet, or from other less general causes? It is probable, that more rain falls in the Southern and Western than in the Northern or Eastern parts of this country. There is also some difference of diet: the great mass of population of the Southern and Western provinces live more exclusively on potatoes than those of Leinster and Ulster. The circumstances of the people of Ulster and Leinster are, perhaps, in general more comfortable than those of Munster and Conaught. Such are the most striking differences between those provinces of Ireland which suffered most and least from fever.

In every part of the country fever was reported to have been much more fatal amongst the upper than the lower classes. In what proportion it is difficult to ascertain. From many quarters we have learned, that one-third of those who were attacked with fever in the upper ranks became its victims, but this estimate is probably formed

from the severer cases only, and does not include those mild instances of fever, particularly amongst children, which when occurring in the lower ranks would have been received into hospitals, and would have contributed to lessen the aggregate of mortality.

According to the preceding history, deduced either from actual observation or the reports of eye witnesses, this calamity visited every part of Ireland, yet some places were favoured with a certain degree of exemption, attributable to seclusion, and to the means adopted to prevent the spreading of disease.

In the House of Industry at Cork, and in the Foundling Hospital of that city, the disease scarcely showed itself when very prevalent among the inhabitants in general.* In some parochial and other schools, it was either much less frequent than in the community at large, or was altogether absent. Thus in the Marine School in Dublin, according to information which we have received from Dr. Cowen, physician to that establishment, very little fever has existed during the last three years. At the end of the year 1817, when fever was very prevalent in the vicinity of the school, it was suggested to the governors by the physician, that to obviate the risk of infection, the friends of the boys should be prevented from visiting them, which had been customary on Sundays, and that the boys should not be allowed to quit the school. The governors immediately issued an order to that effect, and the school was free from fever until the beginning of 1819, when a few cases, about five, of low fever, occurred; of these, two only assumed an unfavourable appearance; they were removed to the Hard-

* Communication from Dr. Hallaran of Cork.

wicke Fever Hospital, and the disease disappeared from the school.

The Royal Hibernian Military School, in the Phenix Park, contiguous to this city, may also be adduced as an example of the same kind. From a report in our possession, from this establishment, it appears that, in a population of 726 persons, in the years 1817, 1818, and 1819, 14 only were attacked with typhous, 34 with simple continued fever, and 21 with inflammatory fever. If we take the cases of typhous and continued fever, as belonging to the epidemic, the number of fever patients will amount but to 1-15th of the population, and even including the cases of inflammatory fever, the number will not constitute 1-10th of the whole.

It is probable, that a similar exemption extended to other places where seclusion, or a careful separation of the infected from the healthy, had been practised: the instance of the charter school of Killoteran, near Waterford, mentioned in the Report on the state of fever in Munster, page 15, vol. 2, renders this assertion probable.

In the jail at Cork, the prisoners remained free from fever, when it had spread in every direction amongst the inhabitants of that city. To prevent its introduction, means were employed which deserve record: jail dresses were provided for the prisoners, whose clothes, on their admission were removed and heated in a stove, and their persons washed and cleansed: the bedding was occasionally steeped in oxymuriatic acid water and then stoved: patients in whom fever shewed itself were immediately removed to an hospital; this system was continued during a year and a half, in the course of which time two prisoners died of dysentery but none of fever; when the Medical

Inspector for Munster made his visit to the jail, the system had been for some time discontinued in consequence of the expense attending the jail dresses, and then fever began to show itself among the prisoners, and a few cases were found by him in the jail at that time.

The Society of Friends in Waterford suffered scarcely at all from fever: we have already stated the comparative exemption enjoyed by the class of society in easy circumstances.

In a few places of considerable extent, fever did not make its appearance till long after it had been epidemical in other parts of the country. Thus in Wexford and Dingle, its commencement was at least a year later than in most other places in Ireland. In the case of Dingle, the exemption was attributed by an intelligent physician of that neighbourhood, Dr. Mawe of Tralee, to the superior comforts of the lower classes arising from the fisheries and the linen trade; the place is also said to be remarkably salubrious, and its inhabitants long lived. As to the abundant supply of fish, Wexford was similarly circumstanced. Some effect may also be attributed to the remote situation of these places. Rostrevor is likewise mentioned by one of the Inspectors as an instance of exemption from fever, the cause of which is well explained at page 114, vol. 2.

Certain insulated places also escaped: of this an example is afforded in the island of Rathlin, on the coast of Antrim, as reported by the Inspector for Ulster, v. 2, p. 117; and in the island of Cape Clear, on the southern point of Ireland. We are indebted to Dr. M'Carthy, of Skibbereen, for the following information relative to the latter island, derived from his own observation, together with that of Mr. Hingston,

who has resided there for the last fifteen years. "This island contains about 1200 inhabitants; the ground is very high. During the years 1816, 1817, and 1818, fevers, with an inconsiderable exception, were not more prevalent or fatal than in preceding years. No typhous fever shewed itself, but the common fever arising from heat, or cold, or too great exertion. Fever is at no time prevalent among these poor islanders. Providence has kindly averted this calamity from them, deprived as they are, by poverty and local situation, of the means of medical aid or other assistance. The island is seven miles distant from the shore, and fever was every where prevalent along the adjacent sea coast during the years above mentioned."

Exceptions such as the above were however rarely to be found; for the answers which the Medical Inspectors of the Provinces received to the question, whether any district or class of people had been exempt from fever, were uniformly, except in the few instances above given, in the negative.

Thus we have showed that in the calamitous years of 1817, 18 and 19, the inhabitants of this populous country suffered the greatest distress from the failure of food, fuel, and clothing; to which was added, want of employment: and in the midst of such circumstances of misery, they were visited by fever, which, often proving fatal to the heads of families, left the survivors in a condition truly deplorable.

In the deportment of the people during the whole course of this complicated suffering, it is not easy to say, whether the liberal charity of the rich, or the resignation and fortitude of the poor, was most to be admired. Our knowledge of the conduct of all classes during

the prevalence of fever, would enable us to illustrate, by numerous instances, every topic which was introduced into the masterly view of this great national calamity which was given in the House of Commons on the 6th of April 1819.*

We could, for example, mention the names of eight individuals of rank and fortune, who, each at his own expense, fitted up and supported an hospital for patients in fever. Others there were, who supplied every deficiency in the subscriptions collected for that purpose. The resident gentry very generally gave employment as far as possible to all the poor who applied for it, and fed multitudes who otherwise must have perished. As the eminent person in the debate above alluded to, whilst dwelling with so much pleasure on the virtues of the people of Ireland, commiserated those individuals who, by absenting themselves from their estates, lost the opportunity of cultivating the good will of a generous and grateful people, justice requires us to state, that all the absentees were not alike blameable: there were some who, by liberal donations to their tenantry, showed that the poor had their sympathy, even when deprived of their countenance; and some had reluctantly left their country in quest of health in another climate. As for those who, during such a crisis, were selfishly spending their income in the gratification of sense or taste, without contributing to lighten a burdenborne with unparalleled temper and magnanimity by their suffering tenantry, we consign them to the reprobation of all who are actuated by feelings of patriotism or benevolence.

Of the useful application of general information to practical purposes there were many examples among

* See Mr. Grant's Speech in the debate on the Epidemic Fever in Ireland.

the established clergy of Ireland, who were in general acquainted with the received opinions relative to contagion, and with the most approved means of arresting the progress of febrile diseases; they also understood the best method of conducting business at public meetings, and hence were useful members of Fever Committees, Boards of Health, &c. They subscribed liberally to funds raised for the support of the sick, and used all their influence to procure subscriptions: they took an active part in carrying into effect the necessary measures of prevention, frequently acting as secretaries to charitable associations, keeping the accounts and conducting the correspondence: finally, the discipline of fever hospitals was maintained by their vigilance.—We have known clergymen of the Established Church, who visited the fever hospitals at uncertain hours, nay, who would steal upon the servants of these establishments at midnight, to secure proper attention to the wants of the sick. We cannot ascertain that they ever made any distinction between their own flock and the rest of the indigent sick, and we witnessed the testimony which they liberally bore to the humane conduct of the clergy of other communions.

The Roman Catholic Clergy, in general, evinced that disregard for danger in the discharge of their functions, for which they are distinguished in this country. The Roman Catholic Priest was often to be seen leaning over the bed of the poor, ministering comfort to the dying, regardless of the infectious exhalations arising from the sick, by whom he was often surrounded.—Nothing, in the annals of the Roman Catholic Church, can evince a greater devotedness to the duties of their order, than the conduct of many of the Roman Catholic Clergy of Ireland, during this long period of general distress.

The Society of Friends claim also particular remark. To some of these we are indebted for a large part of the plan and arrangement of the principal fever hospitals in this country. Their active and regular habits, information on practical subjects, zeal in forwarding the objects of humanity, and diligence in such laudable pursuits, which constitute with some of them, if not their sole employment, at least their chief recreation, most eminently fitted them to act as governors of institutions for the relief of fever. We have witnessed their fearless exposure of their persons in the superintendence of fever wards, and have every reason to believe that they contributed most liberally in this season of calamity to alleviate the sufferings of the poor.

As to the members of the medical profession, in many or most instances they merely discharged their duties with exertion, increasing in proportion to the exigency of circumstances. On one point, however, we cannot be silent. Many medical practitioners fell a sacrifice to fever contracted in the gratuitous exercise of their profession, some of whom have left families with, or even without, the slenderest provision for their maintenance. We cannot permit ourselves to think that the claims of the widows and orphans of men who, "without the ordinary incentives of ambition braved every danger," will be forgotten by their country.

"Instances might be mentioned, where physicians of great eminence, rising in their profession, well aware that the rich were in less danger of infection, and more able to command assistance, voluntarily gave up their prospects, withdrew from attendance on their rich patients, and devoted themselves to the exclusive and gratuitous attendance of the poor."* We will venture to bring forward one instance in illustration of this remark, and as we saw the individual, Dr. Gillichan of Dundalk, in the illness

* See Mr. Grant's Speech.

which arrested his bright course, the following statement may be considered as verified by our personal observation.

This accomplished young man, who early foresaw the coming evil, and its frightful magnitude, at once roused the inhabitants of Dundalk, to a sense of the danger with which the country was threatened. Under his directions a system of medical police was established, and an hospital on an ample scale provided, which he gratuitously attended, and which the inhabitants liberally maintained.

From the time the fever began to rage, he declined visiting the rich, that the poor might have his undivided attention. His private fortune was considerable, this with the generosity of some of his friends enabled him to contribute to the wants of many a helpless family; for his exertions were not confined to the fever hospital; but were employed wherever sickness and misery were to be relieved. At last he fell sick. He had frequently expressed a hope that he would escape the fever, as he felt he could not recover from it; and medical men know with how much certainty such prophetic warnings are fulfilled. We saw him in his illness, and witnessed the anxiety and apprehension which every countenance expressed: prayers were offered up by the clergy of all persuasions for his recovery, and there was a general burst of grief when he died.

We learn from the clergyman of the parish, that his death had, to individuals of every class, the poignancy of a domestic loss. His remains were attended to the grave by the inhabitants of Dundalk and its neighbourhood, who have since testified their affection by erecting to his memory in the parish church a monument of their gratitude. He was only in his twenty-eighth year, but well has it been said of him by one of his friends, that

wisdom is the grey hair unto men, and an unspotted life is old age.

We come lastly to the poor themselves, who were the chief actors in this melancholy scene.

We select the following communication from Navan out of many which illustrate the suffering of the poor in Ireland, because it contains a particular statement of their condition in a town in which great efforts were made for their relief. Were we desirous of producing effect rather than of giving a true picture of the state of the poor, we have many letters which display much greater wretchedness. Indeed, when compared with many parts of Ireland, Navan was a favoured place. It is the seat of the county Infirmary: subscriptions were early made in its neighbourhood for the relief of the poor. Navan had a public soup-kitchen, and a large quantity of meal was supplied by the Bishop of Meath to be sold at half price to such as could buy, and to be given gratis to such as could not. Indeed it was preparatory to the issue of the meal that the following observations were made:

“In order to ascertain the proper objects, I set out one evening,” says our informant, “about the time I supposed the people would be at supper, in order to take them by surprise, and see what food they had; I believe we went that evening into sixty houses. Some of the poor fellows had no supply for themselves or their families of any kind. In one house there was a little oat-bread; in two others a few potatoes; and in all the rest the inhabitants were eating Prashia weed and salt. They said if they had *kitchen* they would be satisfied. I tasted it, and very bad it is; and from its dry coarse taste and stringy nature, I should imagine it can afford very little sustenance. Still there was no murmur—no riots—not a

symptom of discontent in the parish, nor did I hear of a Navan man being accused of any outrage during the whole scarcity. "I am certain, indeed, had it not been for the Bishop, and the exertions of the Ruxton family, who opened a large soup-shop, numbers must have perished. It was almost a famine, yet we had the most profound peace."

In many parts of Ireland the small farmers contributed to the support of their still poorer neighbours. In the neighbourhood of Edgeworthstown "they used to boil as much cabbage as their large pot would hold, sometimes adding a piece of bacon to the cabbage, which they gave to the starving poor who assembled at their doors. No one ever laid up any food left at meals, the residue it was a rule to give away to some one poorer than themselves. My friend Mrs. ———," says our correspondent, "gave a breakfast of stirabout and milk to more than a hundred children, who used to come regularly every day at eleven for it. When the potatoes began to be fit to dig, several of the children came to Mrs. ———, and thanked her for the great relief she had given to them, and said as they no longer were in want they would not come again."

The poor between Edgeworthstown and Rathowen, when reduced to beggary, left their own neighbourhood, and often in troops of fifty or an hundred, went to beg in places where they were not known; indeed this was the case in many parts of Ireland, as they generally felt that begging would have degraded them in the eyes of all their acquaintances.

The exertions of the more wealthy inhabitants in this time of distress, were not merely personal, pecuniary aid

was also most liberally supplied; large sums for the support of hospitals and the relief of the poor were subscribed in many places—Waterford, Cork, Limerick, Clonmell, Kinsale, Newry and New-Ross, afford examples of this kind, which we adduce because the sums subscribed are particularly known to us. Our Appendix will afford the reader satisfactory evidence on this head.

At page 49 a table is given, exhibiting the times when epidemic fever commenced in various parts of Ireland. In consequence of the difficulty which must have attended any attempt to ascertain the precise period of its commencement, in many places where fever is constantly prevalent, the testimonies appear in some instances either imperfect or discordant; but from an attentive consideration of this table enough may be collected to prove, that epidemic fever commenced at an earlier period in Connaught than in the other provinces; that its appearance in point of time was next in Munster, and latest in Leinster. Indeed we have reason to believe, that it was introduced into many parts of Leinster from the provinces of Ulster and Connaught, and from the latter chiefly, by wandering labourers and mendicants, who at this time of scarcity became very numerous, and moved towards the more opulent and cultivated parts of the country, in the hope of obtaining employment or the means of supporting life. In several parts of Leinster, it did not commence till long after it had prevailed in parts of the country distant from Dublin, where its commencement has been referred, on grounds highly probable, to the beginning of September 1817. In short, its commencement seems to be intimately connected with the operation of these causes which serve chiefly to extend infection; namely, crowding of many persons into the same apartments, the roving of labourers or mendicants, the increased neglect of personal cleanliness and general depression of mind, and where these causes were

most active, there the influence of disease chiefly showed itself.

It deserves remark, that in some places it was said to have appeared first amongst the higher class of society, which perhaps arose from the greater mortality in this class, and the greater attention given to the illness or death of any of its members by the public. In many parts of Ireland, fever was observed to fluctuate as to frequency, at one time declining, at another re-appearing with its former or even increased violence. Of this a remarkable example occurred in the spring of 1818, when both as to frequency or mortality, it became stationary or diminished. This was the case in Dublin, and the accounts of a similar decline, in some parts of the country, particularly in Ulster, led many well informed persons to believe that the epidemic was about to cease, but it again raised its head, though never in the same formidable shape.

With respect to the time of its greatest prevalence in each of the four provinces, it is not easy to decide. In Munster it appears to have been most prevalent in the summer of 1818, and in Connaught about the same time, whilst in the other provinces, where its commencement was latest, the time of its greatest prevalence was referred in Leinster generally to the autumn of 1817, and in Ulster to the winter of that year. In the principal cities, Dublin, Cork, and Limerick, it was most prevalent in the summer and autumn of 1818.

Waterford affords an exception to this statement; for in that city it was at its height of frequency when it had either declined or altogether ceased in most parts of Ireland.

The attention of the Lord Lieutenant had been early directed to the public health, a subject at all times important, but now most peculiarly so, when threatened by the visitation of epidemic fever.

Scarcity, which had existed from the end of 1816, and the recollection of the consequences which followed the same event in the year 1800, gave rise to an apprehension amongst those who were well informed on this subject, that fever would become epidemical; and the vigilance of government was more particularly excited, by communications from the Medical Officers of the Irish Staff quartered in different parts of Ireland, who reported occasionally to the Inspector General of Military Hospitals, on the health of the inhabitants of their respective districts. Of these reports, we have given examples at page 74 of this volume.

The Physician General, Dr. Perceval, in conjunction with one of the Editors of this work, had undertaken to obtain reports from different parts of Ireland, relative to the prevalence of fever. These were arranged in a tabular form, and were presented to the Lord Lieutenant in the autumn of this year (1817). One of the reports, namely that for Conaught, is subjoined as a specimen; and on inspecting the dates of the several returns, it will be evident, that these inquiries must have been instituted about the close of the summer of that year. The document tends to corroborate former statements, in as much as it gives the testimony of the same observers at different times, and thus adds to the quantity of evidence.

CONAUGHT REPORT.

Countries.	Towns.	Names of Correspondents or Informants.	Date of Report.	State of Public Health.	OBSERVATIONS.
GALWAY.	Galway.	Dr. Blake.	14th Sept.	Fever prevalent in the county and fat. I among the labouring classes all over the country; it now assumes a more formidable character than it did at first.	Attributed to scanty and unwholesome food, and general despondency; no measures of precaution or public relief taken.
	Ditto.	Dr. Veitch.	6th Sept.	More prevalent in the county and town than it has been for 17 years.	Distress of the poor, and want of food in particular.
	Loughrea.	Mr. Keogh, Surgeon, near Loughrea.	10th Sept.	Fever prevalent for about a fortnight in the town.	Three of the upper ranks died; and one Mrs. Fox, (a Baker's wife) received the infection from beggars, who came in from Galway.
	Tuam.	Major Burton, left Tuam 14th.	17th Sept.	Fever increasing; spreads in the direction of Dublin, Galway, and Dunmore; mortality not great, except in a village on Mr. John Brown's of Moyne's estate.	No effectual public measures adopted; but bad food the cause; patients have recovered in the air, though under rain.
LEITRIM.	Carriock-on-Shannon.	Mr. Brady.	18th Sept.	Fever unusually prevalent since May last; rather declining.	Bad diet and lodging.
	Do.	Do.	1st Oct.	Fever more frequent and fatal, particularly in the higher classes.	Considerable alarm among the inhabitants.
	Do.	Rev. Archdeacon Digby.	6th Sept.	Fever disappeared two months ago; increased much within this last month; has assumed latterly a more malignant and fatal appearance.	Cause, unwholesome and scanty diet.
MAYO.	Ballina.	Dr. Fausset.	4th Oct.	Fever continues to prevail, and has prevailed through different parts of the adjacent country for the last two months.	Privations of poor, crowded together in narrow wretched habitations; no establishments for relief of the sick poor.

CONAUGHT REPORT—(Continued.)

Counties.	Towns.	Names of Correspondents or Informants.	Date of Report.	State of Public Health.	OBSERVATIONS.
ROSCOMMON.	Boyle.	Dr. Verdon.	8th Sept.	Fever less general than it was, but more malignant.	Arose from season, badness of food, extreme want; afterwards spread by contagion.
	Do.	Dr. Burne.	4th Oct.	Fever prevalent since June; now rather declining, but in particular cases more malignant.	Cause, distress of the poor.
	Elphin.	Dr. O'Farrell.	12th Sept.	Fever commenced in March; still continues; affects few of the upper ranks	Arose from causes above mentioned; contagion spread by beggars; 5 or 6 ill in one cabin. In cabins, infection generally continued for 2 months; no public measures taken for the suppression of fever.
	Roscommon.	Sir Thomas Mortalty.	22d Sept.	Fever appeared the end of February; extended itself in the month of March, with severe symptoms; in May, disorder formidably spread by legions of beggars, who traversed the whole face of the country.	In August, fever attacked 35 out of 39 girls in the charter school, about a mile from Roscommon. The town has comparatively been free, strict regulations having been enforced; fever rages in outlets and villages; confluent small-pox preceded the fever.
SLIGO.	Sligo.	Drs. Coyne and Johnson. Report in Sligo Journal.	5th Sept.	500 persons have been under cure since March; disease mild; mortality not exceeding 1 in 25. Mr. Ferguson, who did the duty of a dispensary, caught the fever, and died, leaving a wife and four children unprovided for, the eldest child seven years of age.	In the return of deaths, some few who died in the neighbouring tidals and highways, in an attempt to return to their houses, were not included; causes not assigned.
	Ditto.	Ditto, Ditto.	Du.	Fever since March last.	

The information thus communicated to Government, together with the applications for assistance from different places suffering under fever, induced his Excellency the Lord Lieutenant to adopt measures, calculated at the same time to assist the distressed, to divide the burden of affording them relief, and to economise the expenditure of public money. A Committee was appointed on the 30th of September 1817, consisting of Dr. Renny, William Disney, Esq. and the Rev. James Horner, who were to examine and report on the several applications made to Government for pecuniary aid, and to issue such sums to the several applicants as should be approved of by the Lord Lieutenant. The interference of Government was limited to those cases where fever was prevalent and hospitals had been opened, or accommodation provided by means of subscriptions of the wealthier members of the community. The principle which directed his Excellency, on this occasion, must be allowed to be highly judicious. It encouraged and promoted associations for the relief of the sick, in districts where no exertions would have been made but for such aid. Had grants of public money been indiscriminately advanced to all who were willing to act as public almoners, a wasteful expenditure would sometimes have ensued, and private contributions would often have been checked; whereas by limiting such grants to those only who had made advances of their own, the funds became conjoint, and the public money was managed with the economy which is usually observed in the disbursement of a private subscription. Much benefit was also derived from affording relief through the medium of existing institutions: advantage was thus taken of experience; the errors of new systems were avoided; managers, acquainted with the wants of the poor, and with the best methods of giving assistance, were employed, and the public money was placed in the hands of the intelligent, active and benevolent, who expended it under

the inspection and control of their associates in the work of public charity. The aid of Government, under the sanction of Parliament, was thus continued through the winter of 1817, and the following year. The table given at page 207 and seq. of volume the 2d, will show the selection of places to which relief was given, and also the mode of distributing the grants, by commencing in general, with the advance to each place of small sums, increased according to necessity and to the exertions of the resident inhabitants. Nor was relief altogether limited to places occupied by opulent residents: for as this country is a great sufferer from the absence of many of its principal landed proprietors, an evil felt most sensibly during the time of public distress, it was thought proper to grant pecuniary aid in places where no fever hospitals or dispensaries existed, and where the sufferings of the poor, by the representation of respectable eye witnesses, were ascertained to be extreme.

The beneficial result of this measure is confirmed by the evidence of the Medical Inspectors, who, at a later period, reported to the Lord Lieutenant on the state of disease, and bore testimony to the good effects of the aid thus afforded.

In the session of Parliament of the year 1818, the state of disease in Ireland engaged the attention of the Legislature, and a Select Committee of the House of Commons was appointed, for the purpose of reporting on the progress of fever, and of recommending measures to arrest its farther extension, to guard against its recurrence, and to secure adequate means of support for such establishments as were destined for the relief of the diseased.* These measures were, the extension of Fever Hospitals, the exemption of lodging houses under certain regulations from the hearth and window tax, and the formation of

* See Official Documents, vol. 2, page 197, and seq.

Boards of Health to be temporarily armed with more enlarged powers than were possessed by Magistrates, to abate and remove nuisances, and to check contagion: an act of Parliament to this effect was accordingly passed on the 30th of May 1818.* On the passing of this act a letter by command of the Lord Lieutenant, announcing the form to be observed in constituting Boards of Health was distributed through the country, with a form of approval by the Lord Lieutenant of such Boards, and pointing out the mode of application to Government for pecuniary aid.†

It is right to observe, that in many parts of the country the intentions of the Legislature, in thus giving power to form Boards of Health, were frustrated by the inhabitants, who objected to the expense attending them, to the obligations under which the members of these Boards were placed to make returns to Government, and to the control of distant Magistrates, to which they would be thus subjected.

The extraordinary powers given to the Boards of Health by this act of Parliament, were also objected to. The best reply to the objections, some of which perhaps are not without weight, is to be found in the words of the Select Committee of the House of Commons on the state of disease in Ireland, “that the enactments respecting the
“ establishment of a Board of Health, which, though
“ guarded most scrupulously against any possible abuse
“ of those great powers, which could alone be efficacious
“ in such extensive cases as it was calculated to meet,
“ appear to have excited in some parts unmerited distrust
“ and jealousy, whilst they have been acted upon in other

VOL. I.

I

* See No. V. p. 215. vol. 2.

† See No. VI. and VII. pages 230 and 232, of vol. 2.

“ places, where they are stated to have produced the most salutary results :” for ourselves we would observe, that this part of medical police has not been sufficiently investigated to enable us to give a decisive opinion.

Whilst measures were thus adopted by Government, acting under the sanction of the Legislature, to provide for the emergency, by increasing the quantity of hospital accommodation, by giving additional powers to those individuals who might be induced to exert themselves effectually for the relief of the poor, and by creating or supplying funds for this purpose, the cooperation of the people was also solicited in a printed paper of advice, containing judicious rules and regulations for preventing the spread of infection, as derived from the experience of the most extensive hospital establishments: this paper was generally distributed through Ireland, so that little doubt can exist that information on this head must have been very widely diffused, more especially when we consider that medical and other intelligent persons used their best endeavours for the same benevolent purpose. Thus all practicable means were adopted for the prevention of disease, by encouraging or promoting the support of fever establishments, by affording pecuniary aid in cases of urgent necessity, by pointing out the most improved modes of prevention, and by endeavouring at the same time to obtain the concurring efforts of all classes of the community.

The measures adopted in Dublin, demand particular attention, as they were of great extent, and were carried on under the immediate eye of Government. It has been already mentioned, that the commencement of epidemic fever was later in Leinster than in the other provinces; in fact the disease may be said to have existed in Ireland for at least nine months as an epidemic,

before it reached the capital. Much alarm had been excited by the accounts received from various parts of the country; but in the month of August 1817, it was generally allowed, that fever was not epidemical in Dublin, although most of the causes that were supposed to have given origin to it in other places existed in this city in full force. It must however be admitted, that the effects of scarcity were felt at a later period in Dublin than in most parts of the country, owing, in a certain degree, to the exertions of a committee of the inhabitants, who met at the Mansion House in the early part of 1817, for the purpose of supplying the poor with employment, and with food on cheap terms.

At length, on the 3d of September, the Governors of the House of Industry addressed a letter to the Right Hon. Robert Peel, then Chief Secretary to the Lord Lieutenant, in which, after stating, that fever had for some time existed in all parts of Ireland to an unusual extent, and with uncommon severity, it is announced, that on the 2d of September, fifteen persons were admitted from different quarters of Dublin into the Hardwicke Hospital, where the accommodation was unequal to the pressure, and that this increase was probably the commencement of a severe epidemic in the city; they added that they had, by the advice of their physicians, lost no time in apprising his Excellency of this alarming event, and of their well-founded apprehensions; and they suggested to his Excellency's consideration, the expediency of opening the Whitworth Hospital, intended for chronic patients, for the reception of patients in fever, with such other wards in the hospital department as were applicable to that purpose: the Governors concluded their letter by offering to serve the public in any way which the crisis might require. In the course of that week one hundred fever patients were admitted to the Hardwicke Fever Hospital,

the usual weekly average being twenty-seven. To the letter of the Governors an answer was returned in the course of the same day by Mr. Peel, conveying authority from the Lord Lieutenant to prepare, for the use of patients in fever, the Whitworth Hospital, and such wards in the hospital department of the House of Industry as were suitable; and also signifying that his Excellency had directed communications to be made to the Governors of the Cork-street Hospital, and Steevens' Hospital, to provide increased accommodation in their respective hospitals for patients in fever.

The physicians to the House of Industry of course felt most anxious, that every preparation should be made to meet the impending danger. Two of that body, as Editors of the Dublin Hospital Reports, had been engaged in the month of August 1817, in preparing and circulating queries amongst their professional brethren in the country, in order to ascertain the extent and nature of the fever, which they understood was every where becoming epidemical, and they were actually in possession of answers from different parts of Ireland when the disease broke out in Dublin. Additional communications from the country, together with the careful examination of the cases which came into hospital, enabled them to report on the 5th of September, for the information of Government, that the disease, which was becoming general in the city, had nothing of malignancy in its nature, and that it was a fever of the same kind with that which they had witnessed in the Hardwicke Hospital during the summer.

The principal circumstances attendant on the introduction of the epidemic into Dublin, are explained at page 160 of volume the 2d. At the Hardwicke Hospital, which is the Fever Hospital of the House of Industry, as being in the vicinity of Barrack-street and Church-street,

where fever first established its residence, the danger was sooner known than in any other of the Dublin hospitals.

In one important respect Dublin might be considered as not unprepared for this calamity; its hospitals were under the management of men of much practical wisdom, matured by experience; men who would have exercised their power of deliberate reflection, had this great calamity been much greater; and truly, when dismay had seized on the minds of many of the well intentioned inhabitants of Dublin, it required persons of calm judgment to conduct the affairs of a great fever hospital, during such a crisis of public alarm. It was obviously the policy of Government to encourage and support these establishments, to enlarge the powers and increase the resources of existing institutions. When the extent of fever had been such as nearly to exhaust the means which had been prepared for the emergency, the Government of the country showed their confidence in the Directing Boards and Physicians of the different fever hospitals, by consulting them before deciding upon new measures. Funds were given to the Governors of the Fever Hospital in Cork-street sufficient to enable them to accommodate nearly 12000 patients, in a period of two years; and the Governors of the House of Industry, from the commencement of the epidemic, were required by the Lord Lieutenant to perform some of those functions of a Board of Health, which were applicable to the circumstances of Dublin; they were directed to provide such hospital accommodation as the increasing exigence of the case might render necessary, to maintain a regular inspection of the dwellings of the sick, which they were to have whitewashed and cleansed, to remove nuisances, and daily to report their proceedings to the Chief Secretary, together with an exact account of the fluctuating movements of the epidemic.

The following is an extract of a letter from Mr. Peel, dated September the 9th 1817, to the Governors of the House of Industry, on this subject:—

“ It is his Excellency’s particular wish that you would
“ not confine your attention to the state of the fever
“ patients admitted into the hospitals under your super-
“ intendence, but that you would extend your inquiries
“ into all those parts of the city wherein fever may have
“ shown itself, or where, from the neglect of cleanliness,
“ and density of the population, its appearance may be
“ apprehended.” The letter also goes on to state,
“ that, should it appear after due inquiry, that there
“ are districts in which it might be desirable, through
“ the poverty of the inhabitants, to undertake, at the
“ public charge, the whitewashing of their houses, or
“ the removal of filth from their doors, or to adopt
“ any other measure of this nature calculated to dis-
“ courage the introduction, or to check the progress
“ of fever, you have authority to incur such reasonable
“ expense as may be necessary for purposes so desir-
“ able: you will see, at the same time, the expediency
“ of offering your assistance in those cases only where
“ there is a probability that similar measures will not
“ be effectually taken by local authorities.”—The letter terminates by directing the Governors to communicate with the Police and the Paving Board, to which departments instructions on this subject were given by order of the Lord Lieutenant. It also desires the Governors to report to Mr. Peel the result of their inquiries.

We subjoin a specimen of the reports transmitted daily and weekly to Government, by the Governors of the House of Industry, agreeably to the directions contained in the foregoing letter of Mr. Peel.

Report of the Fever Hospital House of Industry, for Saturday, January 2d 1819.

	Male.		Fem.		Total.		Male.	Fem.	Total.
In Hospital, January 1st 1819,	-	-	-	-	-	-	-	-	-
Admitted January 2d, from City	-	26	-	575	656	16	25	41	
County	-	18	-	-	-	1	2	3	
-	-	-	-	31	44	279	577	656	
Total,	-	-	-	404	700	296	404	700	

State of the Fever Hospitals, Dublin.	Vacancies.				Summary of weekly proceedings at the House of Industry			
	Fever.		Convalescent		Decreased in number this month, 10.			
In Hardwicke and Whitworth Hos- pitals,					Fever Patients admitted in the week,	-	356	
-					Do. Do. died	-	28	
-					Do. Do. discharged cured,	-	237	
In Richmond General Peniten- tiary,					Habitations visited by Medical Inspectors,	-	236	
-					Rears of houses, courts, &c. cleansed,	-	675	
-					Apartment white washed	-	148	
-					Suits of patients' clothes disinfected,	-	210	
In Cork-street Hospital,					12 oz. cuts of white bread distributed,	-	1125	
In Steevens' Hospital					Quarts of soup distributed to convalescent patients,	-	1125	
In Sir P. Duun's Hospital,						-		
	45	19	21	41				
	1055							

To the report on the state of fever in Leinster, in the second volume, we refer our reader for an account of the origin and progress of the disease, in several of the villages and in the country contiguous to Dublin. This report shows, that fever had existed in these places for some time previous to its appearance in the capital.

It was now manifest that the accommodation for fever patients would soon become insufficient, and the Whitworth Hospital at the House of Industry, being inadequate to the increasing demand, the Governors of the Fever Hospital at Cork-street received the commands of his Excellency to increase the number of beds in that hospital to 260, which they were enabled to do, by fitting up a new building, completed at a time when the demand for it became so urgent. Other hospitals were opened in different quarters of the city, in order to accommodate all those who might apply for admission, or could be induced to avail themselves of this benefit. The following is a list of all the hospitals thus appropriated, with the number of the fever patients which they could contain, and the times of their being opened and closed.

Hospitals.	No. of Fever Patients accommodated.	When opened as a Fever Hospital.	When closed.
Fever Hospital in Cork-street,*	260	In 1804. No. of beds increased in September 1817.	Still open, with reduced number of beds, viz. 200.
Hardwicke Fever Hospital,* -	112	In 1804.	Still open, with reduced number of beds, viz. 72.
Sir P. Dunn's Hospital, - -	100	Feb. 18th, 1818.	July 5th, 1819.
Whitworth Chronic Hospital, -	84	September 2d, 1817.	September 27, 1819.
Steevens' Hospital,	100	September 14th, 1817.	July 5th, 1819.
General Penitentiary, - -	590	October 15th, 1817.	April 22d, 1819.
Talbot Hospital, -	100	April 20th, 1819.	January 27th 1820.
New Whitworth,	52	1st May 1818.	Still open.

Thus, during a great part of the time whilst epidemic fever continued, the beds in hospitals, situated in different quarters of the city, generally remote from each other, amounted to 1278, an increase exceeding four times the usual average number.

In forming these arrangements, it was his Excellency's wish that the accommodation in hospitals should fully equal the demand, and with this view, had occasion required, the new City Bridewell would have been con-

* These were the established fever hospitals of this town.

verted into an hospital, capable of containing 300 patients. This humane intention was fulfilled, except on the following days, viz.

Date.	Applicants rejected.		Date.	Applicants rejected.	
18th Feb. 1818,	-	30	28th Oct.	-	17
29th Sept.	-	30	31st Oct.	-	32
1st Oct.	-	41	2d Nov.	-	25
9th Oct.	-	25	3d Nov.	-	20
12th Oct.	-	45	25th Nov.	-	29
13th Oct.	-	49	6th Jan. 1819,	-	28
14th Oct.	-	25	7th Jan.	-	23
27th Oct.	-	21			

But it is to be observed, that the exclusion of most of the above patients did not extend beyond the day on which they had been rejected, and that a great majority of these were received on the day immediately following, or on the subsequent days.

Whilst means were adopted to separate the infected from the healthy, thus to cut off the chief source of disease, other causes of fever received attention. The clothing of patients admitted to the hospitals, underwent the operations of washing, stoving, and exposure to the air. At the Fever Hospital in Cork-street, the clothing of every patient admitted underwent a complete washing and ventilation; so that from the registry of patients admitted to that hospital we can infer the number of suits of clothes thus purified from infection. Similar means were employed at the other hospitals, and it will be no exaggeration to assert, that at least 20000 suits of clothes were submitted to the operations of washing, stoving, and ventilation, during the space of two years. Nor were those occasional causes of fever neglected, which are known to exist in collections of putrefying

animal and vegetable substances. Two hundred extern paupers of the House of Industry were employed in cleansing courts and back-yards. As an example of these proceedings, we adduce the report of the month of July 1818, as contained in the books of the House of Industry:—

Rears of houses, courts, back-yards, &c. cleansed,	3904
Apartments whitewashed,	- - - 629
Habitations visited by Medical Inspectors,	- 607

The system of cleansing the houses of the poor, was continued at the same rate of from three to four thousand houses monthly. At the same time, the number of hospital carriages employed in conveying patients from their homes to the hospital was increased, for the purpose of expediting the separation of the sick from the healthy; and so great was the demand for such relief, when disease was at its height, that the porters, engaged in this office, were often under the necessity of conveying more than one patient in the same carriage.

The occasional excess of the demand for admission to hospitals, beyond the provision, extensive as it then was, which had been made by Government, together with the apprehension of a further increase of fever, induced the Lord Lieutenant to institute an inquiry, in order to ascertain what further measures were practicable for the purpose of guarding against this danger. A circular letter was sent to the Governors of the different fever hospitals of Dublin, announcing that fever had progressively increased in the city and neighbourhood, and requesting them to summon a meeting of the Physicians, for the purpose of taking this subject into consideration, and submitting an opinion, whether any means, remedial

or preventive, ought to be employed, beyond those which had been, and were in active operation throughout the city and its vicinity; requiring from the Governors also their sentiments on this highly interesting subject, with such facts and observations as their experience could supply.

By this circular letter the opinions were required of nearly fifty persons, most of whom had been in continual attendance on fever hospitals, either as Governors or Physicians, during a series of many years.

In reply to this letter, a separate report was sent in, from the Governors and Physicians of each of these institutions respectively. These reports are contained in vol. 2d, at page 242 et seq.

On a general review of these reports we find, that the progress of the epidemic fever is attributed chiefly to contagion; that such an opinion prevailed among the reporters may be inferred from the general coincidence in the means which they proposed for arresting the progress of disease. These means were, more extended hospital accommodation, either within the city or in its vicinage. The establishment of cleansing houses on a plan similar to that adopted in Peter's parish, see page 314, vol. 2. A system of cleansing in the dwellings of the poor. The burning of old straw, and the providing fresh and clean straw. The exclusion as far as possible from the city, of country patients. Improved ventilation in the dwellings of the poor, and the adoption of means for suppressing the practice of assembling at wakes. An increase of the number of fever carriages for the conveyance of the sick to hospital. A prohibition of the sale of old rags, and support to be given to the Association for suppressing Mendicity.

Other measures tending to obviate the causes, which contribute less directly to extend fever, were also proposed, viz. A sufficient supply of water in those parts of the town inhabited by the poor.* The removal of nuisances. The shutting up of ruinous houses where fever prevailed. The distribution of clothes, as rewards to families who had been distinguished for the cleanliness of their dwellings and persons. The establishment of a Central Committee of Health, or the formation of District Committees under the control of a Superintending Committee, for the purpose of recommending or directing such plans as might serve to restrain the progress of disease.

It should be observed, that the plans here proposed consisted chiefly in an extension of those measures, which had been in operation for more than a year on a scale of extraordinary and increasing magnitude.

Of these proposals several were adopted by the Lord Lieutenant; and as the increase of fever within the city was in some of the reports attributed chiefly to the influx of patients from the country, a circular letter was written by Mr. Grant to the Physicians of Dispensaries around Dublin, desiring a Meeting of the Governors to be called, for the purpose of ascertaining the extent of this evil, and of providing accommodation for the sick within their respective districts. To this letter, replies were given by the Governors of the Dispensaries of Newcastle, Swords, Bray, Leixlip and Rathdown, see No. 10, A. B. C. D. E. page 281, et seq. vol. 2. In each of these re-

* This measure was proposed several years ago to the Lord Lieutenant by the Managing Committee of the Fever Hospital in Cork-street; after various difficulties, there is now a prospect of its speedy completion, by the construction of sixty new fountains within the liberties of Dublin, to be supplied with pure water from the Grand Canal: the expense to be defrayed by Government.

plies, the Governors state their opinion as to the extent of accommodation in hospital requisite in their respective neighbourhoods, estimated from the number of fever patients relieved by the Dispensary during the preceding year; also as to the necessity and practicability of fitting up a temporary hospital, together with the expense of its outfit and support.

A circular letter was addressed by Mr. Grant to the Governors of Fever Hospitals, dated November 24th 1818, announcing the adoption of additional measures of prevention and relief, and recommending others in which the cooperation of the Governors was necessary. Of these measures the chief was the establishment of a *Central Committee*, to be composed of one or more of the Governors, and one or more of the Physicians of the several Fever Hospitals in Dublin, with a view to promote communication and concert in the operations of these hospitals. The letter also announced that a soup kitchen was to be attached to each of the Fever Hospitals, for the purpose of supplying, during a limited number of days, soup and bread to those convalescent patients who had been discharged from the hospitals. Moreover, the appointment of one or more Medical Inspectors, in aid of the Physicians of the Hospitals, to promote the more early discovery and removal from their families of patients affected with fever, and to point out any extraordinary measures of prevention or relief, which peculiar circumstances might suggest. The attention of the Governors was further called to the consideration of additional measures for the cleansing of persons, clothing and bedding, of the families from which patients had been removed.

The Members of the Central Committee were then chosen, and consisted of a Governor and Physician from each of the Fever Hospitals in the city. These members

held their first meeting on the 16th of December 1818, and formed a plan of the duties which they were to perform: this is given at page 303, vol. 2d. Four medical Inspectors had early been appointed by the Governors of the House of Industry, for the purpose of obtaining information relative to the state of the poor, and of forwarding the measures of prevention; the number of these Inspectors was increased by the addition of two Inspectors for the House of Industry, and seven for the other hospitals.

The Central Committee proposed a division of the town into districts, one surrounding each of the fever hospitals, in which the duty of inspection was to be performed by the proper Inspectors. This arrangement was acceded to by the Governors of the Fever Hospitals; the city was divided accordingly, and the Inspectors commenced their duties each in his own district. Nor were the operations of these Inspectors confined to the city; the adjacent small towns and villages were visited and reported on, by such Inspectors as had the care of districts so limited as to admit of this extension of their duty. Reports from the Inspectors were received by the Central Committee, and properly registered in a book kept for that purpose. Of these reports, which are at present in our possession, we must say, that they fully develop the condition of the poor, afford a distinct and comprehensive view of the state of fever within the city and its vicinity, and point out those causes which chiefly favoured its progress, together with suitable means of prevention and relief.

Weekly reports from the different fever hospitals were also obtained by the Central Committee, and when collected and arranged in a tabular form, furnished a correct registry of the state of the public health. At the same

time this Committee maintained a constant communication with the Governors of the House of Industry, as to the removal of such nuisances as were pointed out by the Inspectors, and also communicated to Government the results of their information. Thus a system of medical police, well adapted to existing circumstances, was established within the city of Dublin, supported by proper authority, and in every respect calculated to give full effect to such measures as were suggested by observation and experience. This system was continued during several months, and must have contributed to restrain the advances of disease. But as fever still maintained its ground in the capital, and accounts from some parts of the country gave an unfavourable representation of the public health; moreover as the spring was approaching, when according to the past experience of many well-informed persons, an increase of fever was to be apprehended, it was deemed expedient to institute a general inspection of the whole kingdom, for the purpose of ascertaining the exact state of fever in different parts of Ireland, and of devising such additional preventive or remedial measures as might be suggested by personal inquiry.

Four Inspectors were accordingly appointed, one for each of the provinces, who received their warrants from the Lord Lieutenant on the 13th of February 1819, and proceeded forthwith to the provinces assigned to them respectively. Having communicated with persons best informed on this subject in all the principal places in Ireland; having visited the different establishments receiving fever patients, and having also directed their attention to the general causes of fever in such places as came under their inspection, which continued during a period of about five weeks, they prepared each a separate report, in which they detailed the state of the country as to the actual prevalence of disease, pointed out those places where fever had altogether subsided, or where it still continued

to afflict the inhabitants, communicated such information as might enable his Excellency the Lord Lieutenant, to ascertain the effects produced by the expenditure of the public and private funds for the suppression of fever, under the provisions adopted by the Legislature: they also pointed out such further measures of prevention as were called for by existing circumstances.

It deserves remark that these reports, although drawn up by the Inspectors separately and without communication, afforded similar views as to the actual state of the public health, and as to the effects of those measures which had been adopted for its security or melioration. They represented fever as generally on the decline, particularly in the provinces of Ulster and Conaught; indeed little fever was found to exist at the time of their inspection, except in the following places: at Waterford, Limerick and Cork, in Munster. In Cork it had almost subsided within its ordinary limits. At Belfast, Lisburn and Randalstown, in Ulster; but in this province it had generally declined. At Dublin, and the towns of Wexford and Wicklow, in some few places in the county of Carlow, and in the Queen's county, in Leinster. In Conaught it had very generally disappeared; but for particulars on this subject, we must refer to the reports of the Provincial Inspectors, at the commencement of vol. the 2d. These reports were laid before Parliament by Mr. Grant, and were annexed as an Appendix to the report of the Select Committee of the House of Commons on the state of disease in Ireland, dated the 17th of May 1819. The measures recommended in this report were adopted in an Act of Parliament, passed for the purpose of facilitating the removal of nuisances, and restraining the migrations of mendicants. —See No. XX. p. 366, vol. 2.

Thus we have given a brief sketch of those measures, which the Government of this country thought proper to adopt for the security of the public health. The exertions of private individuals also, in this time of distress were, in many instances, most conspicuous. We have given a list of those places, to which portions of the parliamentary grants had been advanced by the Lord Lieutenant, and as these were, in most instances, given to places where the resident inhabitants had exerted themselves for the relief of the sick poor, it will be obvious, on inspection of the list, that the benevolence of the public was very widely diffused. We have also presented our readers a detailed account of the proceedings at Waterford, and at the small town of Ballytore, as valuable specimens of public spirit and benevolence, but we are certain that contributions were equally liberal in other parts of the country; indeed we can testify that at Cork, Limerick, Clonmell, Newry, Dundalk, and some other places, which are specified in the reports of the provincial Inspectors, the inhabitants were peculiarly active in affording aid, both personal and pecuniary, on this melancholy occasion. In Dublin, the more opulent individuals of several of the parishes contributed largely, and attended at parochial meetings with the same benevolent views. The inhabitants of the parish of St. Peter were particularly distinguished. Their operations commenced so early, and were so well devised, that we have given a detailed account of them in our second volume.

The accounts of the provincial Inspectors, as to the improved state of the public health, in most parts of the country, were confirmed by subsequent experience. Fever, soon after their return to Dublin, began to decline in those places where it prevailed during the time of their inspection, and in the course of the following

summer or autumn it subsided within its former limits.

As the disease in Dublin had commenced epidemically, at a later period than in most parts of the country, it might be expected to continue in that city when it had disappeared in other places. Its epidemic decline was indicated by a shortening of the duration of the disease, and a general mitigation of its symptoms, so that patients remained in the hospitals for a much shorter time than formerly, a fact to which the attention of his Excellency the Lord Lieutenant was particularly directed, in a report from the Governors of the Fever Hospital in Cork-street.

In the month of April 1819, the reports from the hospitals in Dublin showed a diminution in the number of applicants; and the Inspectors of that city, in their weekly reports to the Central Committee, announced that fever had become less frequent in many of their districts. It soon became evident that the apprehension of an increase of fever on the approach of summer, was no longer well founded, and that the disease had either exhausted its force, or was about to yield to the preventive means pursued so unremittingly.

In this month the Governors of the House of Industry, by command of the Lord Lieutenant, reduced the number of their Inspectors to four, and the Governors of the New Whitworth Hospital reduced the number of their Inspectors to one. In the course of the summer, the inspection of the district surrounding the Fever Hospital in Cork-street was also discontinued; and in the following autumn the Inspectors for the whole city were reduced to four, the number originally employed by the Governors of the House of Industry.

It deserves particular notice, that as in the commencement of September 1817, the increase of patients was observed, from which was dated the invasion of epidemic fever within the city; so in the same month of the year 1819, at the expiration of two years very nearly, such a rapid and remarkable decrease of applicants to hospitals occurred as led to the inference that the epidemic existence of fever was at an end. When the restoration of the public health in Dublin was fully confirmed by the reports from the different hospitals, the Central Committee of Health, which had held its regular weekly meetings at the house of the Royal Irish Academy, was dissolved on the 15th of December 1819. In the second volume, page 307, will be found a letter from Mr. Gregory, conveying to them the thanks of his Excellency the Lord Lieutenant, "for the zeal and ability with which they had discharged the duties entrusted to them."

It will be evident from the following view of the number of patients admitted to the fever hospitals of Dublin, as reported in the books of the Central Committee, that the duration of epidemic fever in that city extended to two years. The great increase of applicants to hospitals in September 1817 indicated its commencement at that time, as already noticed: in the five months preceding September 1819, the admissions to the hospitals were as follows:

Months.			Patients admitted.
1819 April	-	-	1016
May	-	-	809
June	-	-	772
July	-	-	876
August	-	-	737
September	-	-	493

Thus was the duration of epidemic fever in Dublin limited to two years. Such was also its general course in most parts of Ireland. In those places where its commencement was early, it terminated soonest, and where it was late in shewing itself, its duration was protracted: in some places, as in Wexford, where its commencement was much later than in other parts of the country, its duration was somewhat shortened, but in the large cities, particularly Dublin, Cork, Limerick, and Waterford, it could not be said to have ended until the expiration of two years from its commencement.

In several instances which have come to our knowledge, either from published records, the testimony of eye-witnesses, or from our own observation, fever has been of two years continuance. This was the case in the years 1740, 1741, according to the testimony of the accurate Rutty. The epidemic fever of the years 1800 and 1801 continued also for two years; and that which appeared in Lombardy in the year 1817, of which we have given our readers a short account, derived from Dr. Pockells, of the Brunswick medical staff, according to his testimony, was of the same duration. Thus, as in four instances, epidemic fever has required two years for the completion of its course, it is not improbable that this is the ordinary duration of such fever. Should this be confirmed by subsequent observation, it will be a fact of considerable interest, as it will show what is to be expected on any similar occasion in future, and afford a criterion whereby we may estimate the comparative value of different systems of prevention.

Thus we have endeavoured to lay before our readers the principal circumstances which attended the commencement and progress of this great national calamity;

and, at the same time, have given an arranged view of the measures, prophylactic and remedial, which were put in force, either by the Government of the country or by the public. We have not entered into any minute discussion as to the causes from which this evil chiefly originated, as our object has been to record facts rather than opinions. On one point, however, we feel it incumbent on us to make some observations, namely, the efficacy of contagion in extending fever; for so strong to us appears the agency of this cause, that, were we to pass it over, we should neglect the principal object of all future systems of prevention. Facts, evincing the influence of contagion, are scattered through various parts of this work. Thus persons exposed to contact with the sick, or to their effluvia, very generally became sufferers, the certainty of an attack bearing some proportion to the amount of exposure. When fever commenced in a poor family, or was introduced by a stranger or lodger, it generally extended to all its members. The poor were the chief sufferers, in consequence of their neglect of cleanliness, particularly with respect to their clothing, and the smallness and crowded state of their apartments, evils at this time much increased by the extreme poverty which weighed them down. On the other hand, the superior classes, whose circumstances were different, their clothing more frequently changed, their persons more cleanly, their apartments less crowded and better ventilated, and among whom seclusion from the sick was practised, in proportion to their enjoyment of these advantages generally escaped the disease. And that such exemption did not depend on any other causes than those here assigned, is proved by the great suffering of persons of this class, when sufficiently exposed to contagion by communication with the sick. Thus the medical attendants on fever hospitals and dis-

dispensaries, and the Clergy, more especially those of the Roman Catholic Church, whose duties brought them into contact with fever patients, were very general sufferers, and considerable numbers of them became victims. In proof of this assertion, numerous examples will be given in the sequel of this work. But as the most unobjectionable evidence of the contagious nature of the fever is derivable from this source, we shall here collect some of the principal instances.

In the hospitals of the House of Industry of Dublin, no clinical clerk or apothecary escaped an attack of fever. On the 20th of January 1819, it was reported to Government that five of the medical attendants of the House of Industry were, at that time, lying ill of the disease. At the Hospital in Cork-street, only one physician and the apothecary had an attack of fever, but then most of the physicians of the establishment had laboured under that disease on some former occasion, previous to the appearance of the epidemic: it is mentioned by Dr. O'Brien, in his valuable report of the Sick Poor Institution of Meath-street, that of eight apothecaries who have acted in succession at the Fever Hospital in Cork-street, since its first establishment, one only escaped an attack of fever. Of the students in attendance on Sir Patrick Dun's Hospital, several also sickened. In other cities of Ireland, the medical attendants were great sufferers. Thus, in the city of Cork, nine physicians, in attendance either on dispensaries or fever hospitals, were attacked: every medical attendant at the South Fever Asylum in that city suffered. At Limerick, five physicians, chiefly those engaged in attendance on the fever hospital or dispensary, sickened, and the apothecary of that fever hospital underwent three attacks. In the town of Clonmel, seven medical gentlemen,

five of whom were in attendance on the hospital, caught the disease, and in the town of Killarney five. To these we might add many other examples in the smaller towns. Thus, in the neighbourhood of Fermoy and Mallow, six medical attendants were seized with fever; at Tralee, of nine medical gentlemen who might be considered as peculiarly exposed to infection, four were attacked; in the counties of Sligo and Leitrim scarcely any of the apothecaries escaped. Nor were these consequences of communication with the sick in persons of this rank of life, limited to the medical attendants only: several of those persons, whose humanity led them to inspect the wards, and who thus braved danger from no motive but benevolence, caught the disease. Examples of this kind occurred at Cork, Limerick, and Clonmel. The reader who compares these facts with our previous statements respecting the comparative frequency of fever in the superior and lower ranks of life, must perceive that the medical, and other visitors of the sick, were oftener attacked with the disease than persons in the same condition of life who were not similarly exposed. Many such persons died: as the steward of the House of Industry; purveyor at the Fever Hospital in Cork-street, who was not exposed until he superintended the distribution of soup among the convalescent patients; and the apothecary at the Meath Hospital, in which establishment, as the crowd of patients is very considerable, the medical attendants were at that time much exposed to infection in the performance of their duty; finally, two of the students at Sir Patrick Dun's Hospital were cut off. Such instances occurred in Dublin. In other parts of Ireland these sad examples were not less frequent: thus at Cork, three of the physicians in attendance on the dispensary, and the apothecary, died of fever. At Limerick two physi-

cians, and a Roman Catholic Clergyman, who visited patients in the Square Hospital; at Clonmel two medical gentlemen, though not engaged in attendance on fever hospitals, and in the neighbourhood of Mallow a physician and apothecary, lost their lives at this time; also in the town of Moate a physician, soon after he became a resident of that place, sickened with fever and died: and shortly after his attack his wife also sickened, and fell a sacrifice to the disease, and thus a young family, deprived of their parents, was left dependant on public bounty. Many similar instances might be adduced, for the disease was most mortal amongst those persons who were advanced in life, and enjoyed its comforts. These examples demonstrate that poverty, and its attendant consequences, were not essential to the production of fever. Persons of inferior stations, though well fed and clothed, who came into contact with the sick in hospitals, suffered in an extraordinary degree. Some instances of this kind are already given. At the hospital in Cork-street, in the course of fourteen months, fifteen nurses and servants were attacked with fever. An example still more striking is afforded at the hospitals of the House of Industry; in these, one hundred and seventy persons were employed in different offices of attendance on fever patients, and from this part of the establishment were recorded one hundred and ninety-eight cases of fever. In Dr. Crampton's medical report of the department of Steevens' Hospital, containing a complete and instructive view of the proceedings of that establishment, as connected with the epidemic in Dublin, it is observed, "that, with the exception of Dr. Harvey and himself, all those concerned in attendance on the patients caught the disease; none of the nurses, none of the porters, barbers, or those occupied in handling, washing, or tending on the sick escaped, and many of them had relapses and recurrences of fever." Indeed it may be asserted, that

persons engaged in attendance on fever patients, more especially if their duties brought them into immediate contact with the sick, rarely escaped the disease in most parts of the country. Thus at Cork the nurses, and other persons who were in attendance on such patients, very generally sickened. At Waterford, in the course of fourteen months, seventeen of the nurses and servants were attacked, and some of them had two or three relapses. Facts on this head are detailed fully and decisively in the report from Waterford, which is given in this volume. At Limerick scarcely any of the nurses escaped.

Clerical visitors of the sick were also observed to suffer in a very remarkable degree. Of this a proof is adduced by Dr. Stokes, in his valuable Essay on Contagion, published at a time when epidemic fever had made but little progress in Dublin, with the humane object of exciting attention to the means requisite for preventing its spread. "The deaths from fever, recorded in Saunders's News-Letter, from August 1st to December 12th following, are 64, and of these 19 are of Clergymen of some of the different persuasions, or of medical men of different descriptions, which appears greater than the proportion which these two classes bear to the whole of those whose deaths we may suppose were mentioned in that manner." As the Clergy of the Roman Catholic Church, in the discharge of their religious offices, are peculiarly exposed, it might be expected that the effects of contagion would, amongst them, be strikingly exemplified. Accordingly, considerable numbers of them were carried off by the disease: as for instance, in the county of Kerry, where ten Roman Catholic Clergymen died of fever.* If from the number of those

* See report on the state of fever in Munster, vol. 2. p. 39.

who died, we estimate the probable number attacked, and compare this with the total number of persons of that class in the country, we can appreciate the influence of contagion in extending fever.

Its communication by vagrants and mendicants also confirms the opinion of its contagious nature. To the influence of this cause, Ireland is peculiarly exposed; the miserable state of its peasantry in some parts of the country, much increased of late years by want of employment, and during the prevalence of epidemic fever by scarcity of food, had both extended and augmented those habits of migration, which at all times contribute to spread contagious disease. Thousands of labourers annually come from Conaught to the neighbourhood of Dublin, in quest of harvest work; and it is well known that the county of Kilkenny is visited by labourers from Clare, whose wives and children are occupied, during the harvest, in begging from door to door all over the country. In like manner the poorest of the peasantry of the counties of Cavan, Longford, and Leitrim usually come to the county of Meath during the harvest; shutting up their homes, they disperse, the men to look for work, and the women and children to beg. In 1817, about the middle of August, there were many of these poor families in the town of Kells; *some of these obtained access to lodging houses, in which fever soon became general, and shortly after, many families of the same description, labouring under fever, were to be seen lying on the road side, rude huts having been built for them by the charitable inhabitants residing in the neighbourhood, who supplied them with the necessaries of life to the utmost of their power.†

* Communication from Mr. Nelligan.

† Do. from Dr. Byron of Kells.

In the neighbourhood of Mallow, in the county of Cork, says Dr. Galway, we are subject to a periodical inundation of beggars from Kenmare, and the other poor districts in Kerry. After cultivating their potato fields, the men, securing their huts, go to seek employment, and send their wives and children to beg; superadded to this we had, during the last spring, (1817) an early visit from hordes of others, who from scarcity of provisions, and want of work at home, forced their way into the towns and better cultivated lands, where the scarcity was less felt, so that every farmer's out-house was occupied by groupes of squalid creatures, who were shortly seen to crawl out, begging alms in all stages of typhous fever.

But the most circumstantial information which we have obtained on this interesting subject relates to a migratory movement of the lower orders in the county of Derry.

It has been the custom for many years for the lower classes of the people in the county of Derry, living within fifteen miles of the county of Antrim, to migrate to the richer districts of the counties of Antrim, Down, and part of Armagh, between the time of putting the potatoes into the ground, and that at which they are fit to be dug, when also the flax is ready for pulling. In the summer of 1817, this migration extended to almost the entire population of the country districts. Several parishes in the county of Derry were left with not more than four or five families in the whole parish. In the parish of Donegore, county Antrim, it was calculated

by several farmers appointed for the purpose, that, in the month of July 1817, there were upwards of 1500 strangers, almost all from the county of Derry, soliciting alms. The migration takes place over the bridges of Toome and Portglenone, on the Bann. The bridge-keeper at Toome calculated that upwards of 100 persons of that description daily passed over to the county of Antrim, from the middle of May to the beginning of July. At Portglenone there is reason to think that the number was greater. It was ascertained that several of the beggars were proprietors of two cows. Some of these persons no doubt were impostors, who thus took advantage of the humanity of their countrymen, but the greater number we believe to have been urged to this proceeding by the utmost extremity of want.

The effect of such migration at this time may be easily conceived, when we consider that many of these wretched wanderers were either labouring under fever, or convalescent from it, or that they carried with them filthily and neglected clothing, which had recently been in contact with the sick; and according with these views, it has been reported to us that the spreading of fever in many parts of Ireland was distinctly referable to vagrants and mendicants. The humane and hospitable dispositions of the people of Ireland mainly contributed to introduce contagion into their dwellings; for the wandering stranger was seldom refused a night's lodging in most parts of the country, till experience of its formidable consequences showed the necessity of abandoning this practice. So general were the reports as to the pernicious influence of vagrancy and mendicity in communicating disease, that it became the subject of legislative enactment, and the 59th of Geo. III. in the year 1819, was framed to abate this evil. Legal interference to diminish va-

grancy, more especially during the existence of a contagious epidemic, is highly desirable; but we deprecate any exertion of power directed to prevent those migrations in quest of employment, which are manifestations of industry, and, in the present impoverished state of the country, are the only means of providing for the necessities of life. Before we dismiss this subject, it may be right to observe that the small-pox was very prevalent and fatal in many parts of Ireland, particularly the northern. We have noticed, at page 92, the many deaths caused by small-pox in the city of Armagh. In former epidemic fevers in this country, the spreading of small-pox has been simultaneous with that of fever. Thus it follows that the same causes contributed to extend fever and small-pox, and the inferences deducible from the contagious nature of the latter disease are applicable to fever.

In the city of Dublin mendicants were supposed, in no small degree, to have spread fever. It was very prevalent amongst shop-keepers, and was, in some instances, attributed to their communication with beggars, who crowded around the doors of all those shops which were much frequented, and likely to afford them alms. Their filthy and neglected persons and clothing, in many instances fresh from the bed of disease, must have been vehicles of contagion. On this subject it is but just to observe, that the Association for suppressing Mendicity has rendered important services to the public, not only by lessening the number of mendicants in the streets, but by removing to hospitals all persons under their management who shew symptoms of fever, and by employing means to promote cleanliness amongst them. The continued operation of this system must have a powerful influence in diminishing contagion, viewed even inde-

pendently of the promotion of industry, and its other moral effects.*

Proofs of the contagious nature of the fever, derived from its spreading through families, are scattered so abundantly through this work as scarcely to require further notice. It is right, however, to observe, that the reports made to the Central Committee of Health in Dublin by the Inspectors, furnish most ample testimony on this head.† Thus, it was reported, on the 18th of February 1819, that, from one house in Cathedral-lane, in the course of twelve months, fifty fever cases had been sent to the hospitals. In a house, at No. 4, Patrick's-close, thirty persons had fever in the course of eight months. At 52½, Kevin-street, from five rooms, nineteen persons labouring under fever had been sent to the fever hospitals in the course of six weeks, as reported on the 1st of March 1819. On the 10th of the same month we find the following report:—"Eleven persons are, or have been lately ill in three rooms on this floor, and one in the garret. They take the fever from each other; those who come from the hospitals sleep in the same infected blankets, and on the same straw on which they and their companions lay in the beginning of their illness; numbers of the same family sleep in the same bed, and the room windows are almost constantly kept shut." Such extracts might be multiplied to a great extent; indeed it will be no exaggeration to assert, that the accounts from every part of Ireland represent the spreading of fever through families as a never failing occurrence among the lower classes of the people.

Thus we have given a part of the evidence, which

* For some interesting particulars on this head, see an ably written report of the Fever Hospital in Cork-street, for the year 1818, by Dr. Grattan.

† A remarkable instance of this kind is given at page 62.

shows the late epidemic fever to have been propagated by contagion. It attacked those persons who were sufficiently exposed, whatsoever might be their condition in life; on the contrary, those who were secluded from the sick or their effluvia, escaped. Like other contagious disorders, it was communicated by fomites, and the agency of this cause has been confirmed by various reports, announcing that the disease broke out in families after the visits of mendicants and vagrants, although these visitors, at the time, were not labouring under fever.

Before we conclude this subject, it is right to mention that, in many parts of Ireland, including Dublin, dysentery made its appearance in the autumn of 1818, kept pace with fever, and in some places, as at Waterford, was extremely prevalent and mortal.

We have thus laid before our readers a general view of the rise, progress and consequences of the late epidemic fever. That the means adopted for its suppression have been singularly efficacious, is best evinced by comparison of this with former epidemics. We have already hinted at the probability that the fevers of former times were designated by the name of plagues, as conveying a just idea of their extent and mortality. From want of records we cannot compare our epidemic fever with those which bear that name in times thus remote; but at a more recent period, in the year 1741, we are informed by the candid Dr. Rutty, that 80,000 persons were said to have died of fever and dysentery in Ireland. He thinks, and in this opinion we must agree with him, that in this statement there is an exaggeration, but if we assume that even one half of the above number, or 40,000, died in the epidemic of 1741, it will much exceed the proportional mortality of the late epidemic: for the population of Ireland at that time was not one third of what it now is, and we

have, probably, not overrated the number who died by estimating them at 65,000, consequently were the numbers who died of fever proportioned to the population at each of these different periods, the deaths from that cause, in 1741, should not have exceeded one third of the above number, or 22,000, and this with ample allowance for the exaggeration supposed by Dr. Rutty. At page 18, reasons are given for the opinion that the epidemic fever of 1800-1801 was also in some places more destructive than that which has lately visited us; indeed, considering its great diffusion and the violence of its onset, it is highly probable that the latter would have imitated the plague, if not in its symptoms and fatality, at least in extent of misery, were it not for the preventive means employed by Government and the various classes of the community. That the establishment of fever hospitals through the country must alone have produced incalculable benefit, is a direct consequence of the proofs already adduced respecting the contagious nature of this fever, and no doubt can exist that whenever this country shall again be visited by a similar affliction, the formation of benevolent societies, the immediate establishment of hospitals, the prompt removal of patients from their families, together with the adoption of means for destroying the infection which adheres to clothes and bedding, and for obviating the remote causes of disease, will become the chief measures for restraining this formidable evil. In many parts of the country the mortality amongst the poor was very small, even in places where no hospitals were provided; yet we cannot but suppose that the exchange of such circumstances as those in which they were placed, for the comforts and accommodations of an hospital, must have produced the happiest results, both in affording immediate relief and diminishing mortality.

From the inquiries into the causes of this great calamity, and the exertions employed to alleviate its consequences and obviate its recurrence, the people of this country have received other important benefits. The state of the poor has been developed, and the extent of those evils under which they labour more generally and completely understood. The different classes of society have been drawn more closely together by acts of charity on the one side, and by gratitude on the other, the spirit of benevolence has been universally fostered; all this has happened under circumstances which will probably lay a foundation for such improvement both in their moral and physical condition, as shall not only benefit the people of Ireland, but add to the resources and prosperity of the empire.



SIR PATRICK DUNNE HOSPITAL

SECTION II.—PART I.

COMMUNICATIONS FROM PHYSICIANS IN THE PROVINCES,
RELATIVE TO THE EPIDEMIC FEVER OF
1817, 1818, AND 1819.

To the Editors of the Dublin Hospital Reports.

Tralee, February 20th, 1818.

GENTLEMEN,

THOUGH I do not presume to think that my answer to your queries* on the subject of the epidemic fever, which has been, and still is so prevalent in many parts

L 2

* These queries were circulated by the Editors of the Dublin Hospital Reports in August 1817.—See vol. 2 of that work, p. 373.

of Ireland, can add materially to the information which you have already received, and which will be communicated by several judicious physicians, yet as you have done me the honour of addressing one of your circular letters to me, I deem it incumbent on me to answer the queries which it contains. I am fully aware that my answers are entirely destitute of ingenious theories, and of all pretensions to novelty, but they are faithful reports of my own unprejudiced observations on this epidemic in my neighbourhood, and of the treatment which I found most successful. As such I submit them to your consideration. "*Omnia hæc debent proponi prout morbi decursus offert, non autem detorqueri ad præconceptas hypotheses.*"

I have the honour to be,

Gentlemen,

Your most obedient and

Faithful servant,

MAURICE LYNE.

Query 1. "Has fever been unusually prevalent in your neighbourhood during the summer?"

Yes. Indeed the uncommon frequency of fever has been very observable since the beginning of December 1816. It increased in January and February 1817, and continued to do so until about the 20th of September, when it began to abate. In November it became more frequent, but it lessened again in December, and since that time, few cases of it have occurred here.

2. Answered.

3. "Has there been any peculiarity in the form of the disease?"

In general the form of it, in the first stage, has been that of synochus. In several instances it terminated in typhus gravior, and in a few cases it became the typhus initior. In January, February, March and April, and even in May, it was very frequently accompanied, not only in the first week, but in the second, with bronchial and pulmonic inflammation. In June, July, and August, very few of my patients had any pectoral complaints; but in October, November, and December, it was again often attended with considerable pulmonary irritation.

4. "What were the organs chiefly affected? If the lungs, what were the symptoms of pulmonic irritation? Did such symptoms appear early in the disease? Did they abate as the disease advanced? If the brain, what were the symptoms," &c. &c.

In my patients the brain was the organ most frequently and chiefly affected, but, as I have already stated, the lungs were often attacked with inflammation. The symptoms were pain in some part of the thorax, which was much increased by inspiration; a severe cough, at first dry, but soon after attended with mucous expectoration, and, in a few instances, with a slight hæmoptysis; difficult, and at the same time quicker respiration than I have observed in typhus when the pulse did not exceed 120.

When the pulmonic symptoms were relieved, I attributed the abatement of them to the remedies I had prescribed, and not to any influence which the fever might be supposed to have had on them in its advance. One case indeed, (that of Mrs. W.) which I shall presently

state, may be considered an exception to this opinion. In a great many of my patients, the determination of blood to the brain was very considerable. The symptoms were intense heat in the head, strong pulsation of the cerebral arteries, head-ach, redness of the face, suffused eyes, intolerance of light and noise, delirium, which was sometimes of the phrenitic kind, subsultus tendinum, floccitatio, &c. &c. The delirium often began before the seventh day, in some cases not till the 13th or 14th. Mrs. W—, whom I attended in this town last October, was not at all delirious till the 19th day of the fever, though for the three preceding days her pulse was from 165 to 170, and though she had not got any sleep for a week before the delirium began. On the 17th day I observed some degree of strabismus; on the 18th it was considerable, and attended with impaired vision, and a great dilatation of the pupils, which did not contract on the close and sudden approximation of a lighted candle. On the 19th the delirium began, attended with a suffusion of the eyes, tremulous motions of the hands and arms, subsultus tendinum, involuntary alvine and urinary evacuations, and picking at the bed clothes. Petechiæ had appeared several days before, and from the commencement of the fever she had a distressing cough, dyspnoea, and other pneumonic symptoms. On the 23d day, finding that the great cerebral excitement and the spasmodic affections were not relieved by any of the remedies I had prescribed, I gave her a large dose of the tincture of opium, which produced a long and a sound sleep. She awoke composed and rational, her pulse fell to 120, vision became more distinct; in the course of twenty-four hours the pupils began to contract, and the strabismus disappeared; a warm, gentle, and general perspiration came on, and continued for several hours, the urine deposited a sediment, the tongue assumed a clean and moist appearance, the pulse came down to 90, and in two days

after she was out of danger. In this patient I observed that, when the delirium was most violent, a very considerable abatement of the cough and dyspnœa took place, and that when it lessened, an aggravation of those symptoms instantly succeeded. The opium not only removed the delirium, but relieved the pulmonic symptoms materially. The alternations of the affections of the brain and of the lungs, were frequent and evident for three days before she took the opiate. Many instances of similar conversions are mentioned by Lorry, in his treatise, "De præcipuis morborum mutationibus & conversionibus," edited after his death by Hallé. I did not observe any affection of the abdominal viscera peculiar to this fever, nor any symptom decisively indicative of an inflammation of the mucous membrane of the stomach or intestines. None of those whom I attended in the first stage of it had, at any subsequent period, tormina, tenesmus, or bloody or mucous stools. For this exemption they were very probably indebted to the early and frequent use of laxative medicines.

5. "Was the disease in general attended with petechiæ, or any other affection of the skin?"

In general it was attended with petechiæ. In some patients they were very numerous, even when unequivocal symptoms of pneumonic inflammation, or of an impetuous afflux of blood to the brain rendered venesection indispensably necessary. That in my patients the frequency of petechiæ did not proceed from external heat, or from stimulating drink, or medicines, I am convinced. In the upper and middle classes I took care that it should not be produced by the want of ventilation, or the neglect of cleanliness, and yet of both descriptions the greater number had petechiæ. Amongst the poor indeed, every one of whom had innumerable petechiæ, the conta-

minated air, and the filth of their cabins, beds, and clothes, must have contributed to produce this and every other bad symptom of typhus. I observed no other affection of the skin, with the exception of an efflorescence, which, in a few children, appeared between the third and sixth, or seventh day of the fever, and which resembled measles. As the latter disease was prevalent here last August and September, and as tender and suffused eyes, cough and dyspnoea were not at all uncommon in the epidemic fever, I must have found some difficulty in forming an accurate diagnostic on the first appearance of this morbilloid eruption, if I had not ascertained that these children had the measles two or three years before. Having observed a similar efflorescence in fevers of former years, I could not consider it peculiar to the epidemic now under consideration.

6. "Was there much uniformity in the symptoms and progress of the disease during the whole course of the epidemic?"

Yes. I must however observe, that in some of my patients, the lungs were much more affected than in others, that a few of them were quite free from pectoral complaints and from delirium, while in others, the brain and lungs were dangerously attacked at the same time. Mrs. W. whose case I briefly stated in my answer to the 4th query, was the only person who had a strabismus, except Miss H. T. the daughter of a gentleman who then resided in this town. He had two sons and two daughters. On the 17th of last June he sent for me to attend his eldest son. On examining him I found that his disorder was the epidemic fever. His eldest daughter took it in five or six days after. In the course of a week his second daughter became ill, and in the following week his second son sickened. All recovered, except his second daugh-

ter, aged five years. She died after having been for the last ten days affected with the most marked symptoms of hydrocephalus internus, produced, as I thought, by cerebral excitement and congestion. If her brother and sister had not been ill of the epidemic fever, and if she had not been apparently well when her eldest brother and sister sickened, and for some days after, I would have considered her's a case of hydrocephalic fever *ab initio*. This child had for several days before her death, a great swelling of the abdomen, but particularly of the epigastric region. Before this was at all observable, and it could not have escaped my notice, the symptoms which are known to be characteristic of a compression of the brain were very obvious. On making a minute inquiry with respect to her former state of health, I was informed by her mother that she had always been very sprightly until about two months before, when she became indolent and sleepy, and when her temper, naturally placid, became very irritable. Some observations on this case occur to me, but they would be misplaced here. I regretted much my being refused permission to ascertain by dissection the state of the brain and of the abdominal viscera. Before I conclude my answer to this query, I beg leave to mention, that in three or four cases of the epidemic fever the pulse did not exceed 84, and that in two it did not, during the first week, exceed 80. But the foul state of the tongue, the high temperature of the skin, the disturbed state of the sensorium demonstrated the real nature of the disease. In these cases the pulse became quicker before the termination of the fever. In three of Mr. F. T—'s children, and in his nephew who took the fever from them, the febrile exacerbation took place in the morning, and during the night there was an evident remission. Instances of a similar deviation from the usual course of continued fever have occurred to me several times before this epidemic appeared in Ireland.

7. "What was the mean duration of the disease?"

Fourteen days from the first rigor. It often continued above twenty days. In a few cases, when I was consulted immediately after the fever began, I have succeeded in shortening its duration, so as that it terminated on the 5th day, or on the 7th. I must observe, that in consequence of the inaccuracy of some of my patients in dating the commencement of the disease, it was often difficult, and indeed impossible to ascertain its duration with precision.

8. "What was the mode of crisis?"

In some cases the fever having reached its acmé, went off gradually and regularly without any critical evacuation, but in most instances there was an evident *perturbatio critica*, succeeded by a gentle, warm, and general perspiration, by a diminution of the velocity of the pulse, by an improvement in the appearance of the tongue, by an increased discharge of urine, which deposited a whitish, light, or bran-like sediment, and not seldom by copious and bilious stools. A few cases occurred in which at the height of a serious and alarming conflict between the disease and the reaction of the system, the patient fell most unexpectedly into a profound sleep of long duration, and awoke almost quite free from fever, although no evacuation that could be considered critical had taken place. Epistaxis occurred frequently. It relieved the head, but did not abate the fever. In some of my patients a general, warm, and moderate perspiration began in the first week, and continued with very little interruption until the fever ceased. In the case of Mr. J. M. a respectable woollen-draper of this town, the fever continued sixteen days after the first appearance of the perspiration. He,

and others similarly circumstanced, felt much relieved from the head-ach and febrile restlessness while they were perspiring, but when the perspiration happened to be suspended, every distressing symptom returned, and was again mitigated on a renewal of this evacuation. I did not consider these perspirations critical in the strict sense of that word. Permit me to add, that in the course of my very long practice, I have had numerous convincing proofs of the influence of critical days in idiopathic fever. Indeed I am of opinion, that this influence would be more generally observable than it is, if it were not so often interrupted and weakened by the officious interference of art.

9. "Was convalescence interrupted by catarrhal or dysenteric symptoms?"

Though the duration of the fever must have been prolonged by those adventitious complaints, yet in my patients, convalescence was not materially interrupted by them. As to dysenteric symptoms, all those whom I attended, with the exception of one, were free from them.

10. "Were relapses frequent?"

Among the lower classes relapses were frequent. Of the middle and upper ranks, few relapsed.

11. "Were there any preceding or concurrent diseases?"

None different from those of former years, nor more numerous. The measles were common in the summer and autumn of 1817. During the great prevalence of this epidemic fever I had frequent opportunities of ob-

serving that almost every feverish complaint, whether produced by cold, indigestion, or intemperance, was modified by the reigning epidemic, of which in several instances it assumed the type. The daughter of Mrs. W. (the lady mentioned at query 4) had the measles in September 1817. The disorder went regularly through its stages. Immediately after the desquamation began, symptoms decisively characteristic of the epidemic fever, appeared. This fever continued fourteen days. Her mother caught it from her, and was very near falling a victim to it.

12. "What was the relative proportion of males and females affected by the epidemic?"

I attended more males, but the difference was small.

13. "What was the rate of mortality—in the upper ranks—among the poor—among the troops—in men—in women—in hospital—out of hospital?"

I was so fortunate as to lose very few patients; not more than two of those whom I attended in the early stage of the fever. One of them had been affected in 1816 with partial insanity. The other, Doctor Eagar, whom all the physicians of this town attended with me, had been for some time in a very delicate state of health. I do not mention Miss H. T——, because I think that she died of *Hydrocephalus internus*. As this epidemic prevailed much more among the poor than among the upper or middle ranks of society, in the proportion of at least 50 to 1, and as the former must have wanted several of those comforts and necessities of which the latter had an abundant supply, it would be reasonable to conclude that the comparative rate of mortality was in that proportion, but I have been assured that it was not so. I cannot, from my own knowledge, say any thing positive

on this head, nor can I communicate any information with respect to the number of those who died of this epidemic in the fever hospital of this town, or in the military hospital, or in our county jail. It is however certain, that, considering the very general diffusion of this contagious epidemic, few died of it.

14. "Does the epidemic still exist? or has it yielded to any other mode of fever?"

Partly answered in No. 1. As yet I have not observed that the epidemic has been succeeded by any other mode of idiopathic fever. Several of the labouring and mendicant poor have been, for the last two or three months, affected with dysentery.

15. "Do you attribute the frequency of fever to any peculiarity of the season, or of the food of the poor? Or were you able distinctly to trace the origin of the disease?"

Whether this fever was generated originally in Ireland, or whether it was imported into it from any of those parts of the continent of Europe, where numerous and sanguinary battles were fought, and where immense armies were almost constantly in motion since the beginning of the Peninsular war, I will not attempt to determine, but I think the latter opinion very probable. However this may be, I feel no hesitation in asserting, that in Kerry this epidemic originated from contagion, the introduction of which I have distinctly traced from the adjoining counties of Cork and Limerick, where it had prevailed for some time before I saw a single case of it in this town or neighbourhood. I attribute the rapid and general dissemination of it to the unusual predisposition of the labouring poor and distressed tradesmen to catch the infection.

A sketch of the principal causes of this predisposition will, I imagine, suffice. Many of them existed in every part of Ireland; perhaps a few of them were more predominant in Tralee than in any other corporate town in the United Kingdom. Amongst the former may be enumerated the unseasonable, and almost unceasing wetness and coldness of the spring, summer, and autumn of 1816; the general failure of the crops; the scarcity and bad quality of potatoes and of every kind of grain; the very scanty supply of fuel, resulting from the impossibility of drying a sufficient quantity of turf; the extreme dearth of these prime necessities of life in 1817; the sudden fall in the price of land and labour; the consequent distress of all the middle and lower classes; the total inability of the latter to purchase food, fuel, or clothes; the debility produced by the want of nourishment; the closeness, dampness, filth, and polluted air of their wretched cabins; the depression of spirits occasioned by such complicated misery, from which there was no prospect of immediate relief; the despondency arising from this heart-rending reflection, and amounting almost to absolute despair: such is the melancholy, but not overcharged picture of the state of the lower ranks at that time in this county; such is the sad catalogue of the chief causes, both physical and moral, which predisposed the poor to catch this contagious fever. It is possible that the state of the atmosphere, or what Sydenham calls the "*Occulta aeris diathesis*," contributed to increase this susceptibility, or to render the contagion more active; but as I am quite incompetent to describe or define this cause, I will not attempt to do so. In this town, the population of which amounts nearly, if not fully, to eight thousand persons, the rapid diffusion of all contagious diseases must be promoted by the abominable filthiness not only of its narrow lanes, but of its broadest streets, in which, besides other disgusting nuisances, numerous and immense dung-

hills are suffered to remain for the greatest part of the year in undisturbed repose and putrefaction, except when they are assailed by hungry pigs, whose privilege to prowl about this town at all hours of the day, seems to be as fully recognised and established as the charter of its incorporation. Hence it is, as I imagine, that the back lanes and crowded cabins of Tralee are seldom entirely free from fever, and that the infection generated in them by febrile miasmata, contaminated air, nastiness, &c. &c. in years when there was no scarcity of food or fuel, has spread further; but never has it diffused itself so generally, or with such irresistible activity as the epidemic fever now in question. Perhaps I am wrong in attributing to vegetable and animal substances, in a state of putrefaction, greater morbid powers than they possess. Perhaps some ingenious physicians of former and modern times were less mistaken in considering the effluvia of such substances, as correctors of foul air, and of infectious miasmata; perhaps that physician was right who, in his treatise on the plague, which ravaged many years ago the greatest part of Europe, while Spain was almost quite exempt from it, after drawing a disgusting picture of the nastiness and accumulated filth of Madrid and other cities of that kingdom, asks, with apparent and probably real seriousness, "*An et ab hac causâ rarior in Hispania pestis?*" This may be answered in the affirmative, if the following relation, which I have somewhere read, can be considered authentic. When in the reign of Charles II. the plague raged in London, the physicians who were consulted by Government recommended, among other means of checking the progress of the contagion, to have all the privies opened, so as that the circumambient air should be suddenly and thoroughly impregnated with their fetid exhalations. This was done, and the further dissemination of the disease was effectually and immediately prevented. But let us return from

this digression, to follow the progress of the epidemic fever under consideration. From the cabins of the poor, where it first appeared in this country, the contagion was conveyed to the houses of the middle and upper classes, by servants who visited their sick friends, or attended the wakes of such of them as died of this fever; by tradesmen, labourers, and vagrant beggars, many of whom carried in their arms, from door to door, children ill of this disease. The further diffusion of it was promoted by the imprudence of several individuals who, influenced by the opinions of some modern physicians, exposed themselves to the contagion, and took the fever. Long, and I trust tolerably accurate experience, has convinced me that those who argue and write against the contagious nature of typhus, are entirely mistaken, and that this doctrine is not only erroneous, but highly dangerous to society. Physicians and all medical men, in the discharge of their professional duty, must expose themselves to the contagion of fever, and so must clergymen when their spiritual attendance is required; but it is extremely absurd in those who can avoid such exposure, not to do so. Even medical practitioners, habituated as they are to this exposure, frequently catch typhus fever, and so do clergymen. In this town Doctor Eagar caught the epidemic fever last year, and died of it. To — Kennedy, an apothecary's apprentice, who took it in the jail, it proved fatal. Sullivan and Healy, each the apprentice of an apothecary, caught it, one in jail, the other in the fever hospital; both recovered. Several of the clergy of this diocese took it. The Rev. — Dee, the Rev. — Stack, and two or three other Roman Catholic priests died of it:—in short I have, in the course of thirty-seven years full practice, seen so many incontestable proofs of the infectious nature of typhus, that I am as convinced of it as I am of any medical fact. At the same time, I believe that by adopting the precautions recommended

by Doctor Haygarth and others, the greatest number of those much exposed to the infection would escape it. With respect to the length of time during which the contagion may remain in a latent state, I cannot give any satisfactory opinion founded on my own experience. That it may remain dormant and inactive as long as Doctor Haygarth and Doctor Bancroft have asserted, I am not prepared to deny. I must however observe, that the law regulating the communication of febrile contagion can be ascertained with much more precision and certainty when typhus appears sporadically, than when it is widely disseminated as an epidemic.

16. "Were many individuals in the same house, school, manufactory, prison or public institution, affected at the same time, or in succession? and at what intervals?"

In the house of a lady of fortune, about eight miles from this town, I attended twelve patients ill of the epidemic fever, between the first of December 1816, and the 17th of March 1817. The first person attacked by it was a gentleman aged 59 years. Though the greatest attention was paid to personal cleanliness and ventilation, yet almost every one who frequented his room and remained long near his bed, caught the disease, which was communicated by them to others. Three were ill at the same time, the rest were attacked in succession after longer or shorter intervals. A young gentleman living in the house was seized twice with all the first symptoms of this fever, such as rigor, lassitude, head-ach, nausea, quick pulse, &c. but I succeeded each time in cutting it short in limine, by immediate evacuations. The first gentleman became convalescent in the third week, but he relapsed soon after, and recovered with difficulty. Every one of these patients had petechiæ, three of them had subsul-

tus and delirium, and some were much affected with pulmonary symptoms. One of the young gentlemen of this house, after having shaken off the first slight attack in January, was taken ill in March, and continued for several days in considerable danger. They all recovered. The lady of the house escaped the infection, though she was almost constantly in the bed chamber of the gentleman who was first ill, and though she frequently visited the other patients, some of whom were her nephews and nieces. Another lady too in this house, escaped the contagion, though she tended as nurse one of the gentlemen, who was her son. In no other private house has it happened to me to attend so many ill of the epidemic fever as in this. In June 1817, I attended in the house of Mr. F. T. two of his sons, and two of his daughters, as already stated at query 6. In another house here, Mrs. G. first had the fever in August 1817, and was in the most imminent danger. During her illness her son had it slightly. In about a fortnight after her recovery, her husband took it. Amongst the poor I frequently visited five or six ill of this fever at the same time, and in the same wretched cabin. As to the number affected with this epidemic in the county jail, or fever hospital, I cannot give any information.

17. "Were any extraordinary measures adopted by the more respectable inhabitants, or by the magistracy, for the suppression of the disease, or the accommodation of the sick?"

No. Several of the sick were indeed received into the fever hospital, which had been established before the epidemic appeared in Kerry, but it was not large enough to accommodate a tenth part of those who were ill when the epidemic was most prevalent. Every physician here paid the utmost attention to the sick poor. I can assert, with-

out any exaggeration, that I have sometimes visited from fifteen to twenty of them on the same day at their houses. In justice to the inhabitants of this town I must mention, that such of them as could afford to contribute to the establishment of soup shops, did so very cheerfully, and that many of the poor would have perished with hunger if they had not been supplied with nourishment in this way. Notwithstanding this resource, I can aver, that two elderly men, exhausted by want of food, died in the public streets. Several opulent individuals subscribed money for the purchase of potatoes, and oatmeal, and many charitable persons distributed food every day to the famishing poor in various parts of this county. By those benevolent exertions the susceptibility of a great number of that class to catch this contagious fever must have been lessened, but no extraordinary measures were adopted for its suppression, or for the accommodation of the sick. In fact, though Tralee is the capital of Kerry, and for its size, a populous town, it is very poor. We have no manufacture, and no trade of any consequence. The great proprietors of extensive estates in this neighbourhood and in every part of this county, are absentees, with the exception of one or two. They draw out of this remote and impoverished country about £160,000 a year on a rough calculation, of which not one shilling is spent in it,—“*hinc illæ lachrymæ.*”

18. “Previously to the epidemic, or during its prevalence, was any epizöotic disease observed?”

No.

As you, gentlemen, have not expressed a wish to be made acquainted with my treatment of this epidemic fe-

ver, I must apologize to you for trespassing on your time by stating it.

When I was consulted on the first, second, or third day of the fever, I ordered venesection if my patient had much head-ach, attended flushed countenance, and a full strong pulse. I had recourse to the same remedy, though his head was not much affected, if his respiration was quick and laborious, and if he had a frequent and dry cough, or pain in any part of the thorax. Nor did I feel any hesitation in prescribing venesection if, instead of pulmonic distress, or in addition to it, he had much pain in the epigastric region, and if he could not bear a certain degree of pressure over the right and left lobe of the liver, provided this did not proceed from a distension of the transverse arch of the colon, produced by flatulence, or by an accumulation of feces. I always had my patient bled in a horizontal or recumbent posture, and I directed that the orifice should be large enough to have the necessary quantity of blood drawn in as short a time as possible. If I was prevented by any strong contraindication from ordering venesection, while at the same time, I had reason to apprehend too great a determination of blood to the brain, I had twelve or more leeches applied to the temples, and behind the ears, a little below the mastoid process of each temporal bone, a part which usually supplies a great deal of blood. I also had the head shaved, and then well sponged with cold vinegar and water. This operation was repeated often, and extended to the neck, breast, arms and hands, when the temperature of those parts was very high, and when the patient was free from symptoms of pneumonia. If he complained of intense heat in his head at this or any subsequent period of the fever, I experienced good effects from pouring sulphuric ether on it. In this way the evaporation of ether is more rapid, and the cold ge-

nerated by it is much greater than when it is applied in any other manner. In a few instances, I had the head washed with a solution of muriate of ammonia in cold water. While cold applications were made to the head, I sometimes had warm fomentations applied to the lower extremities, or I ordered a pediluvium, taking care that the temperature of the water did not exceed 98°. In some cases, I found that sponging the head with tepid water was preferable to cold ablution. Whether I ordered general or local bleeding, or neither, I never omitted the use of purgative medicines, as I have been always of opinion that in fevers, of whatever type, it is of the utmost consequence not only to evacuate the bowels well in the beginning of the disease, but to keep them open by gentle laxatives through the whole course of it. This has been my uniform practice in the treatment of fever since I began my medical career in 1781, and consequently long before Doctor Hamilton published his candid, perspicuous, and valuable observations on the utility of purgative medicines. The first cathartic which I usually ordered was a combination of calomel and jalap, and afterwards I generally prescribed the daily, or occasional use of such laxative medicines as sulphas magnesiae, infusum tamarindi cum sennâ, oleum ricini, &c. I frequently ordered injections, and particularly in the evening, as I imagined that procuring a free discharge from the bowels at that time would contribute to render the night exacerbation less violent. In the advanced stage of the fever, I often found it necessary to recur to calomel and jalap, though the bowels had been kept regularly open. The discharge of very hard and very offensive scybala, covered with porraceous bile, and followed by an abatement of heat, thirst, head-ach, restlessness, and abdominal irritation, proved the utility of this practice.

When my patient was much affected with vomiting or nausea, or when, at the same time, he had no symptoms denoting too great an afflux of blood to his brain, or an inflammatory, or congestive affection of any of the viscera, I ordered a gentle emetic, such as ipecacuan powder or wine. I sometimes gave tartarized antimony in a solution of sulphate of magnesia, and thus the stomach and bowels were emptied by the same medicine. In several cases, and at advanced periods of the fever, instead of ordering an emetic, I gave a few draughts of warm water, or of chamomile flower tea. If the patient was not entirely relieved from the nausea and vomiting by this treatment, I prescribed saline effervescing draughts, spearmint tea, a decoction or infusion of toasted oat bread, or of toasted oatmeal, light chicken broth, &c. &c. As soon as the stomach could retain purgative medicines, I gave them with a view of putting a stop to the vomiting, by restoring the peristaltic motion of the intestines. Calomel and jalap, or calomel alone, were in this case very useful. I gave calomel as a cathartic, and not at all as a sialagogue. I am aware that several very ingenious physicians have recommended calomel in fevers, for the purpose of exciting ptyalism, but for so severe a remedy there was no occasion in this epidemic, and I had an objection to it, founded on the following circumstance: a few cases occurred to me, in which calomel, instead of acting, as I expected, on the bowels, was absorbed. The soreness of the mouth, the salivation, and the general irritation produced by it, were extremely distressing to the patients, and retarded their recovery. When a teasing, obstinate nausea proceeded from an irritable state of the stomach, unconnected with inflammation, small doses of the tincture of opium, or of the watery extract of opium, were useful. I sometimes substituted, with advantage, the inspissated juice or tincture of hyoseyamus. Opium and ether, applied as a liniment to the epigastric region, were also

beneficial, and opium administered in clysters often stopped the vomiting. When these remedies were ineffectual, I had a blister applied to the scrobiculus cordis; but if that part was painful on pressure, I ordered the previous application of leeches to it. In two or three cases, the tenderness of the epigastrium being considerable, I had recourse to bleeding in the arm, and with decided advantage.

When delirium began early, and was attended with a strong throbbing pulsation of the carotid arteries, with a suffusion of the eyes, and a wildness of countenance, which it is much more easy to conceive than to express, I ordered blood-letting, which was repeated if necessary; or, after having twelve or fourteen ounces of blood taken from the arm *pleno rivo*, I had ten or twelve leeches applied to the temples and behind the ears. I very seldom found it necessary to have blood drawn from the temporal artery. In general, the blood drawn from my patients in this epidemic was considerably buffed.

When delirium appeared in the second week of the fever, and was not materially relieved by general or local bleeding, by purgative medicines, and cold applications to the head, a blister was applied over the cervical vertebræ, or to the back. If the delirium was of the low muttering kind, accompanied with a compressible pulse, stupor, involuntary discharges of feces and urine, floccitation, subsultus, &c. I had a blister applied to each temple, or over the sagittal suture, or to the occiput and nape of the neck. Knowing that sinapisms are quicker stimulants than blisters, I ordered the application of them to the soles of the feet when the stupor was very considerable, at the same time that a blister was applied to the head, or some other part. I had directed that the sinapisms should be removed as soon as it could be ascertain-

ed that the blister had begun to operate. On two or three occasions, blisters having entirely failed of producing any irritation, I had a sinapism applied to whatever part I wished to blister, and when the heat and redness of this part shewed that the action of its vessels was excited, the sinapism was removed, and a blister applied in its stead. A complete vesication, was the consequence.

Whenever symptoms of active pulmonic inflammation appeared, whether at an early or advanced period of the fever, I ordered venesection, or the application of leeches to the thorax, or both. If the patient complained of pain in either side, or under the sternum, a blister was applied as near the affected part as possible. If the respiration was laborious, but particularly if the expectoration, after having been established, ceased suddenly, blisters were applied to the legs, and I prescribed such remedies as I had found most useful in pneumonia. In this epidemic a necessity for blood-letting, even in advanced stages of the fever, occurred very frequently. When it did, I was not deterred by the appearance of petechiæ, however numerous, from ordering venesection, if I was of opinion that unless the violence of arterial excitement were immediately lessened, my patient must perish. Mr. W. S. one of the gentleman alluded to in my answer to query 16, was covered with petechiæ, and yet when on the 13th day of the fever, the delirium became violent, and was attended with a severe cough, considerable dyspnoea, and hæmoptysis, I had recourse instantly to a large bleeding in the arm, and in six or seven hours after I ordered a second, but more moderate bleeding. A great abatement of the delirium, cough, &c. was the immediate effect of this treatment, and the fever, during the subsequent days of its duration, was not attended with any distressing symptom. I have met with several such

cases last year, and every patient who under similar circumstances was bled, recovered. In the great majority of those whom I attended in this fever, I omitted venesection entirely. Far from having blood drawn from every one of my patients,—very far from being prodigal of this vital fluid, I never ordered bleeding but when I was convinced that no other remedy could so soon, and so effectually diminish excessive vascular excitement, or prevent fatal visceral inflammation and congestion. I was fully aware that the period of collapse and debility would arrive, and therefore I did not with dashing temerity reduce my patient's strength. I do not know any remedy in fever more liable to abuse than bleeding, or so productive of dangerous effects, if too much blood be abstracted, or if it be drawn at all in typhus, particularly at an advanced period of it, unless the indication for bleeding be very strong and urgent. Every young physician, before he orders venesection in typhus, should recollect the observation of one of the ancient physicians with respect to this and other powerful remedies,—“*prima exhibitio in tuâ potestate est, reliqua sibi fortuna vindicat.*”

If Doctor Brown, and those practitioners who adopted his doctrines on the nature and treatment of fever, sometimes stimulated their patients to death, and that they did so I have not the smallest doubt, I fear that several young and ardent physicians and surgeons, running into the opposite extreme, will, in many instances, extinguish the flame of life by indiscriminate and profuse blood-letting. I have lately read a case of fever (“*horresco referens*”) in which the reporter states that in England, in August 1815, he and his assistant surgeon drew from a patient, who was rather a small man, seventy six ounces of blood within the short space of four hours! and yet the man recovered.

After the employment of bleeding, when I considered it indispensably necessary, and of purgative medicines, and in the second week of this epidemic fever, while there still existed some symptoms of an inflammatory nature, though not so marked as to require general or local blood-letting, I now and then ordered, if the patient was quite free from vomiting or nausea, small doses of tartarized antimony combined with nitre, not for the purpose of removing atony and spasm, of which we have all heard so much formerly, but to keep up the alvine evacuations, and at the same time to produce a salutary determination to the surface, without irritating the stomach. Why nitre increases the purgative effects of tartarized antimony I cannot explain, but that it very frequently does so, I am convinced. I have sometimes combined tartarized antimony, or antimonial powder with calomel, and in a few cases I gave James's powder. These preparations of antimony were never so useful as when they opened the bowels well, and therefore I gave calomel with them. When in the advanced stage of this fever, it was attended with petechiæ, and with low delirium, subsultus, involuntary stools, and stupor, I not only ordered the application of blisters or of sinapisms, or both, as I have already mentioned, but I prescribed the *mistura camphorata*, either by itself, or with the *liquor ammoniæ acetatis*, or with sulphuric ether, or Hoffinan's anodyne liquor, or with the *spiritus ammoniæ aromaticus*. When hiccup accompanied these symptoms I sometimes added musk to the camphor and ether, or I gave the essential oil of cinnamon, and I had a blister applied to the epigastrium. Musk has I know, lost much of its former reputation as an antispasmodic, but when good, and given in a sufficient quantity, I have often found it an useful auxiliary. When the patient was affected with the symptoms I have enumerated, I gave him a moderate quantity

of good wine, which, in such cases, I consider the best cordial, and safest stimulant.

Some of my female patients ill of this fever, were much affected with strong spasmodic agitations of the head, arms and legs, attended with a sullen muttering delirium, and a total want of sleep. In two of them, the head and the upper and lower extremities performed a slow and semicircular movement from right to left, or from left to right, accompanied with a great rigidity of the muscles that were then in action. During this time the patient either was unconscious of her situation, or she could not control these inordinate motions. As the face was pale, as the pulse, though very quick, was weak and soft, and as the temperature of the skin, and the expression of the countenance denoted rather an irritation of the sensorium, and a general morbid sensibility of the nervous system, than increased arterial and inflammatory excitement, and as warm fomentations, camphor, &c. had failed, I ordered a large dose of opium. An universal calm was the almost immediate consequence;—all those spasmodic or convulsive motions were quieted; a long and refreshing sleep succeeded; and in the course of a few days the patient was convalescent.

This epidemic fever having been frequently attended with pneumonic inflammation, I sometimes ordered digitalis after blood-letting, and in a few cases, when the inflammatory symptoms were not very strong, I gave either the tincture or powder of this plant as a substitute for general bleeding; but as it disappointed me, I discontinued the use of it. In numerous instances this fever was so mild as not to require either bleeding or blisters, and my treatment consisted in ordering gentle laxatives, plentiful dilution with whey, imperial, lemonade, barley-water, and cold water ad libitum,—in directing to have the pa-

tient's room kept dark, quiet and cool, in having it well ventilated, and in enjoining the most unceasing attention to cleanliness. How often in the course of my long practice, have I had an opportunity of confirming the truth of the following Hippocratic observation:—"Interdum enim optima medicina est medicinam non facere."—On the whole, this epidemic required in the majority of cases, the antiphlogistic treatment. A few instances however occurred, especially in August and September 1817, in which my patients derived great benefit from a moderate quantity of wine.

I hope to be excused for observing, that since 1814 the continued fevers of this part of Ireland, even when they assumed the decidedly typhoid character, have either not required wine at all, or much less of it than I had found necessary in typhus for several preceding years. I am ready to acknowledge, that my having for many years ordered wine freely in typhous fever, does not prove that in doing so I acted judiciously: but when on taking a retrospective and impartial view of my practice, I find that it was considerably more successful in typhus, since I began to give wine in that disease with rational freedom, than it had been for the first three years after the commencement of my professional career in 1781, when I very seldom gave it at all, I cannot allow that such fortunate treatment was wrong. I never gave wine while the fever was attended with strong vascular excitement, or with excessive determination of blood to any of the viscera.—I did not give it until the period of real debility and deficient reaction arrived, when the pulse became languid, and when it was evident that the heart, participating in the general weakness, began to lose the power of propelling the blood in such a quantity to the brain as was necessary for the due performance of its functions:—then indeed, I ordered wine with confidence, and I can-

not recollect that I ever had any reason to regret having done so.

Whatever may have been the cause of the change since 1814 in the nature of continued fever, but particularly of typhus, in this country, or of the alteration in the constitution of its inhabitants, the fact is as I have stated it. Why the phlogistic diathesis has been from that time so prevalent as that typhus, but more especially the epidemic fever, to which your queries refer, has been so often and so generally complicated with inflammatory action of the sanguiferous system, and with excessive determination of blood to the brain, lungs, and other viscera, I will not even attempt to explain, lest I should bewilder myself in a maze of theoretic, idle, and useless conjectures. In this epidemic I seldom gave opium, but when I did, it was of great utility, as I have already stated. The use of the muriatic and other mineral acids was strongly contraindicated by the pulmonary affections which so very frequently attended this fever. As to bark, I scarcely ever prescribe it in continued fevers, and in this epidemic it would, I think, have been injurious. When the fever was entirely over, and that there was no visceral complaint whatever, I sometimes ordered it as a tonic, with or without the aromatic sulphuric acid.

Before I conclude, give me leave to state, that in every case, and in every stage of this fever, I earnestly enjoined the most unremitting attention to ventilation and to cleanliness, in the strictest and most extensive sense of the word; that the patient's room should be kept cool, and often sprinkled or fumigated with vinegar; that his bed clothes should be light; and every cause of mental irritation and disquietude avoided as much as possible. Permit me also to mention, that in addition to the measures which I adopted for the purpose of purifying the

sick rooms, and of diluting and weakening the contagion by the constant and free admission of air, I had recourse, in some houses, to fumigation with the vapour of nitric acid, as recommended by Doctor C. Smyth.

Such, gentlemen, is nearly the whole of the information derived from my own attentive observation, which I have to communicate with respect to the origin, nature, progress, decline and treatment of the epidemic fever, which prevailed so generally in this county since December 1816, and which has so widely pervaded almost every part of Ireland. I know that I cannot make an adequate apology for trespassing on your time, by submitting to your perusal so prolix and tiresome a report as this; but I trust that you will peruse it with indulgence, and overlook its numerous faults.

MAURICE LYNE.

To Dr. Barker and Dr. Cheyne.

Tralce, August 21, 1819.

GENTLEMEN,

HAVING received your letter in due course of time, I shall now endeavour to answer the proposed questions as well as my experience can enable me:—1st. The population of this town is above nine thousand, but is not ten.—2d. No persons affected with fever have been entered on dispensary books: the number received into the

fever hospital, during the whole epidemic, amounted, I understand from Doctor Mawe, the only physician attending it, to eleven hundred.—The third question I find it difficult to answer, as I have been in this town during a part only of the epidemic, but from what I have been able to collect by inquiry and experience, I am induced to think, that the number of patients remaining in their own homes, amounted to twice the number admitted into the fever hospital. I therefore conclude, that the entire number affected with fever in this town, was equal to one-third of the population: this estimate, probably, will be supposed exaggerated; but if we consider, that when fever finds its way into the cabins of the lower orders, it most generally attacks every individual in the house, we may be induced to think this computation as pretty exact.—4th. It is no easy matter to ascertain the number of relapses; but from the want of food, fuel, clothing, and other domestic comforts at the period of convalescence, I think it probable that one relapse occurred in every four or five cases.—5th. It is extremely difficult to find the proportion which the fatal cases bore to the recoveries, in a town where the fever hospital has been able to receive only about one-third of the sick. The patients in the fever hospital were treated successfully, and only a proportionately small number died; but the proportion of patients remaining in their own homes has been great; I think I may average both at one death in-nine or ten cases. The sixth question I shall leave altogether to Doctor Mawe, the gentleman attending the fever hospital. The rise and decline of fever in the adjacent country have, I think, taken place at the same time, and under the same circumstances as in town. A high degree of alarm was certainly produced among the upper classes, when fever first became epidemic, but no precautions of a public nature were adopted, though each individual endeavoured to avoid any intercourse with the

3

L. 1

S. 1

6

sick. My experience (I regret to say) can furnish me with but few facts, exemplifying the fearless exposure of individuals to the danger of contagion, in visiting the sick, and performing the other sacred duties of humanity, except in the case of the clergy and physicians. Of the latter it does not become me to speak. The former class seemed to be animated with the highest zeal for the spiritual welfare of their flocks, and it gives me pleasure to bear testimony to their noble contempt of death, in performing the sacred duties of their profession. Mr. Eagan, the parish Priest of this town, a gentleman of the most respectable character, and indefatigable in his attentions to the sick, told me that he has frequently been obliged to go into the very bed where three or four had been stretched in the last stage of life, and apply his ear to the mouth of each, one after another, for the purpose of hearing their confessions, and administering the last solemn consolations of religion. The only precaution he employed on those dangerous occasions was, the interposition of a part of the sheet between his own and the patient's mouth. It may not be unnecessary to mention, that the cabins of the lower orders in this town consist, in general, of two compartments, one cut off by a partition of boards from the space inclosed by the four walls; the other being comprised in the remaining space. The former is without a window, and barely large enough to contain one bed, in which generally three or four persons sleep. The other is the part occupied in the day. The filth of the place, the effluvia arising from so many persons in the same bed, and continually accumulated in such a small space, where the rays of light have never shed their cheering influence, where the external air has never been admitted, must produce such an impression on the eyes and nose of the clerical or medical attendants, as to require no ordinary degree of habit and fortitude to withstand the assault. Add to this, a total want of, or a great

deficiency in the necessities of life, food, fuel, and clothing, and some idea may then be formed of the shocking picture of misery, which the lower orders of this town and neighbourhood presented. The deportment of the poor, under these afflicting circumstances, has been most exemplary. This town has always been remarkable for the peaceable disposition of its inhabitants, and the late disastrous events have shewn that that character has been deservedly bestowed. It is painful to me to state, that the poor suffered much from their own hospitality, for even then this virtue did not abandon them. I shall endeavour to explain this. It is a custom in this country for very poor persons, living in the country parts, and possessing a miserable hovel, with a small garden, after they have sowed their potatoes, to shut up their huts, and, carrying their families with them, to roam about the country, trusting to the known hospitality of the towns and villages for shelter and subsistence, till the time for digging their potatoes shall have arrived. I believe it has not been remarked, that those persons generally carry contagion in their train; but I have so often examined the children carried on their backs, and found them affected with fever, that I am induced to think it is a most frequent occurrence. From what cause these roving beggars are particularly apt to acquire this disease, I shall not pretend to decide, but from their unsettled habits, and their sleeping every night in a different house, it is to be presumed that they sleep frequently in houses where the disease exists, and in this manner acquire it. When only the children, whom they carry on their backs, are affected, they continue their excursions, sleep every night in a different house, and thus propagate the disease in a most frightful manner. But when any of the adults in their train are seized, they must then necessarily stop, and as no person, under such evident signs of fever, would give

them a night's lodging, they are compelled to resort to the fields, where they select an angle, formed by two high ditches, and procuring some branches of trees and rushes, by rude labour form it into something resembling a hut, where being all not unfrequently attacked, without medicine, attendance, and often without water, they are sometimes cut off to an individual. Another mode in which the disease has been propagated is, by the attendance of great numbers at wakes, during the two nights and days, the general period during which a corpse lies uninterred. It is probable that twenty or thirty persons at least have been present at the wake. I am sure that, in estimating the number at twenty or thirty, I underrate it, as it is usual for all within a circle of four or five miles, bearing the same name with the deceased, to attend, especially as they have an inducement still stronger than that of clanship, namely, a copious distribution of whiskey, snuff, and tobacco. It may seem strange that persons so poor can afford this expense, but it by no means follows that, because the deceased has not been worth one farthing, there could not be a distribution of whiskey, &c. at his funeral, as his relations would think their names eternally disgraced if this method of paying honour to his memory had been omitted. When fever proves fatal to an individual among the lower orders, it is easy to see that, from want of cleanliness and ventilation, the cabin must be abundantly stored with the contagious effluvia, and it is therefore probable that numbers, attending at the wake in such a house, will be attacked, and each of these again constitute a new focus, from which disease will be propagated *ad infinitum*. I cannot, from my own experience, give any information with respect to the features of any epidemic fever, occurring in this neighbourhood, previously to 1817,

as I came to this town subsequently to that period.

I have the honour to be,

Gentlemen,

Your humble servant,

NICHOLAS KING.

Extract of a Letter from Mr. Grady to the Editors.

Carrick-on-Suir, August 25th, 1819.

FOR some months previous to the breaking out of the epidemic in Carrick, we were alarmed by reports of its violence in Cork, and part of Kerry; these rumours so far worked upon our fears, that, in the month of March 1817, we resolved to lay out a sum, arising from subscriptions entered into about fourteen years ago, which, with the interest from that time, amounted to about £.700, in the erection of an hospital. The house was intended to accommodate 32 patients, as it was the opinion of the medical gentlemen that we might always expect to have at least 16 patients in the house. Had the hospital been finished, instead of being only begun in March, I do not believe we should have had more than that number at one time in the house, till the beginning of September, about which time I recollect finding late one evening a woman and five children, lying on the bridge, all in fever. I believe it was three hours before I could, with the assistance of some gentlemen, get a house to put them in.

In every quarter of the town the inhabitants declared it was a hardship to introduce sickness *where it had not been before*. It was a vain attempt to persuade them that there was less danger in confining the infection in a house, than in suffering it to be communicated to every passenger over the bridge, the only communication within six miles between the counties of Tipperary and Waterford. Up then to this time, I conceive there was no unusual appearance of fever amongst us.

But shortly after it appeared too evident that we were likely to come in for our full share in this awful visitation. The increase of fever became so rapid that, before the first of November, its progress was truly alarming: a temporary hospital was then opened, and in January another, and both continued more crowded than they ought to have been, till the 1st of May, when the new house was ready for the reception of patients. The fever, with partial intermissions, continued to increase till the month of July, when we were obliged again to open a temporary hospital, and it continued nearly at a stand till December, since which time it has been gradually declining, and assuming a milder type.

It has been remarked, that every change of weather seemed to have a very advantageous influence on the disease; after a continuance of any sort of weather, it increased both in virulence and extent.

The malignity of this wide-spreading evil naturally created a serious alarm through all classes, but this was not manifested in any childish or frantic conduct, but showed itself in an anxious desire to unite, in every practicable scheme, to put it under. The contributions in money, for the support of the hospital, were indeed extraordinary, for a town and parish by no means opu-

lent, and within which there is not one great landlord resident: but even the absentees did their duty: to the Earl of Clonmell we are obliged for the ground, rent free, on which the hospital is built; and the subscriptions of the Earl of Bessborough have been such as might be expected from the liberality of that respected nobleman.

The duty of visiting the sick in their own houses fell very heavily on the medical men of the town, and still more on the Catholic Clergymen, who, from the nature of the duties imposed on them, when attending a sick bed, run the greatest risk of infection; yet, I believe, in no instance did any of them suffer their fears to interfere with their duty.

I believe the distress of the poor of Carrick was not exceeded in any part of the country: as an instance of it, several have gone into the temporary hospitals, and covered themselves up in the infected straw, for the purpose of, by taking the fever, receiving hospital allowance; one instance of this is within my own knowledge, and the physician of the house has assured me that it is by no means a solitary case. Yet, notwithstanding their complicated miseries, they have conducted themselves in the most peaceable manner, not the slightest attempt at riot or disorderly conduct having occurred amongst a population of at least 12,000 souls.

I have now only to say, any further assistance in my power you may command from

Yours, &c.

S. GRADY.

Medical Report of the Fever Hospital of the City and of the County of Waterford, during the Epidemic Fever of the years 1817, 1818 and 1819.—By JOHN KING BRACKEN, M. B. one of the Physicians to the Waterford Fever Hospital.

BEFORE proceeding to the immediate object of this Report, it will not, I trust, be deemed irrelevant to the purpose, to premise a few observations respecting the city of Waterford and its population.

Waterford is one of the most ancient cities in Ireland, having been founded in the year 853, about the same time as Dublin and Limerick.* It was not very long since considered the third town in the kingdom as to trade, extent, and population; but of late years it has been surpassed, at least in the two last respects, by the city of Limerick. The population is estimated at 40,000, which is probably near the truth; but no exact census has been for a long time taken. Some years ago there were more manufactories of various kinds in Waterford than there are at present; but although, in consequence of this decline, many hands have been thrown out of employment, the vast increase of the provision trade, in all its branches, has afforded efficient support to much greater numbers than were deprived of employment by failure of the manufactories. It has appeared by recent examination, that some of the most distressed poor in this city are weavers, and their families without any visible means of support. Attempts were lately made here to establish the coarse linen manufacture; but although

* Vide Smith's History of Waterford.

laudably and liberally supported, the expectations of success have not as yet been realized.

The situation of this city appears not unfavourable to the health of its inhabitants. Dr. Smith, in his History of Waterford, gives it much praise in this respect. The Suir, on the right or southern bank of which it is seated, is, after the Shannon, the most considerable river in Ireland, and affords the most admirable facilities for both external and internal commerce. It also contributes materially to the health of the inhabitants, by giving an outlet for the common sewers of the city; while its breadth of nearly 300 yards, and depth sufficient to float the largest ships opposite the quay, prevent any perceptible impurity in the body of the stream.

Waterford has been, for a long time, celebrated for the number of its charitable institutions, some of which have been considered as examples worthy of general imitation, in their economy and regulations. It is gratifying to state, that the attention of a benevolent public continues to be more and more directed to these establishments; so that whilst improvements are daily taking place in all directions, this city will bear comparison, in this respect, with any other in Ireland, the circumstances of each being taken into account. Several new charitable institutions have been formed of late years, when the pressure of poverty and the consequences of disease were so severely felt by the poor inhabitants; and some of these establishments are altogether supported by private subscriptions and donations.

But in none of these respects is this city so remarkable as for having been the *first* in Ireland, and the *second* in the British Empire, to establish an hospital entirely and exclusively appropriated to the reception of

persons affected with contagious fever. This institution has led the way to similar establishments throughout this part of the United Kingdom, to which many are indebted for their lives, and still more for their exemption from disease. A house and ground were purchased, situated on John's Hill, one of the most elevated and healthful outlets of the city, and fever patients were received into it in the month of August, 1799. This building continued to be occupied until the latter end of the year 1816, when a new hospital was opened for the reception of patients. It consists of three stories. The ground floor is occupied with the various apartments necessary for the domestic establishment of such an institution, all of which communicate with a corridor running from end to end of the building. The staircase is wide, well ventilated, and lighted by two large windows. On each side of the upper floors are two large wards of the dimensions of 32 feet by 18, with the fire-place opposite the door, and six large windows in the intermediate sides, opening on a level with the ceiling. There is a small ward between the large ones on each floor, furnished with a fire place and two large windows; and also a bed-room for the nurses. The uppermost story is appropriated, in general, to the use of patients in fever, and the middle one to that of convalescents. These six wards are capable of containing 72 beds. Behind this building are situated offices of various descriptions, over which are three wards, sufficient for 36 beds. The expense of erecting these buildings has been defrayed, principally, by donations and bequests from individuals, and in part by grants from Government, and a donation from the Corporation of the City.

The new fever hospital had not been long opened when the number of patients began to increase considerably; but the accommodations of the establishment were so ample, that during the year 1817, *not a single fever*

patient was refused admission. This was a source of no small gratification to the inhabitants of this city and its vicinity, especially when it was well known that in many other cities and large towns in Ireland the greatest distress was experienced from want of hospital accommodation. In 1817 the epidemic fever had raged more violently and extensively in most other parts of the kingdom than in this city and its neighbourhood, so that we were fondly disposed to attribute a beneficial influence to our hospital, much greater than it could justly claim, as the great subsequent increase and long continuance of the epidemic in this quarter have since too fully proved.

In a "Report on the plan of establishing a House of Recovery in Waterford, made by a Committee appointed for the purpose," signed Francis Barker, M. D. Secretary,* 1799, it is stated, that "contagious fevers prevail in Waterford at all seasons of the year, to a degree inconceivable to those who have not particularly attended to the subject. The number of persons suffering from this disease, who depend on charity alone for medical assistance, is supposed to be, at a medium, about 1500 annually."

It has been since stated in a Report of the Cork-street Fever Hospital, Dublin, 1806, that soon after the establishment of the Fever Hospital in Waterford, the number was reduced to one half. This statement is made on such authority that I cannot question its correctness; but if we suppose that *nearly* all the sick in fever were sent into the hospital, it does not appear from its register that the annual admissions coincide with this account.

* It is but justice to Doctor Barker to state, that by his information and exertions, he contributed most materially to the institution of this Fever Hospital.

The increase and the decline of disease cannot, however, always be arithmetically represented, although the statement of facts may be substantially correct. The following Table, exhibiting the number of patients admitted into the Hospital since its institution, proves how very irregular and unequal the admissions have been. No one can doubt that such establishments as fever hospitals have the effect of diminishing the quantity of disease, and of alleviating the sufferings of the afflicted; although some intelligent and benevolent persons have questioned the ultimate expediency of adopting them, from considerations respecting their moral as well as physical tendency.

TABLE I.

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Deaths.
1799								8	12	32	25	39	140	6
1800	38	50	22	14	29	40	59	56	37	49	39	46	409	25
1801	36	44	73	60	62	84	88	60	64	109	105	86	871	24
1802	54	39	30	44	40	35	36	39	40	25	25	22	413	25
1803	9	15	9	27	19	17	16	23	22	11	10	10	188	16
1804	9	15	17	28	30	35	18	11	9	16	18	19	223	22
1805	24	9	20	32	24	29	43	31	25	28	19	15	297	22
1806	13	17	25	14	10	14	24	12	10	5	10	11	165	14
1807	19	15	10	18	15	15	20	8	12	17	5	14	166	12
1808	18	10	23	13	15	9	22	13	13	8	6	7	157	14
1809	6	16	23	10	19	15	16	23	30	20	22	22	222	19
1810	19	27	50	43	46	45	47	33	42	24	27	29	410	22
1811	25	20	50	30	40	23	33	24	25	27	27	27	551	22
1812	14	28	40	52	34	25	27	28	19	17	15	24	523	24
1813	34	10	14	31	23	28	21	24	14	22	20	11	252	13
1814	18	11	13	9	22	10	15	17	11	14	10	27	175	13
1815	21	25	31	26	26	53	47	40	26	32	32	44	405	26
1816	37	22	28	27	24	25	24	16	15	27	24	38	507	25
1817	52	44	56	40	71	77	77	101	84	104	100	124	930	34
1818	127	104	100	118	114	200	313	540	325	332	308	348	2729	109
1819	377	456	357	302	237	169	167	156	143	119	88	85	2656	115

In order that a correct estimate may be formed of the extent of the late epidemic, by comparing it with the amount of fever for the last 20 years, a table is here given of the admissions into the hospital, in monthly and yearly periods; such records being almost the only sure ground on which any just opinion can be formed of the increase or decrease of fever. It appears that the epidemic fever of the years 1801 and 1802 was greater in extent than any other, or, to speak more correctly, was the only epidemic that occurred since the institution of this hospital, until that which we have so lately witnessed. Its progress and decline are denoted by monthly numbers: in duration and extent it bears no comparison with the late epidemic. The severity of the former was also considerably inferior to that of the latter, the mortality of the one being about 1 in 36, in 1801; and 1 in 17, in 1802: of the other 1, in 27, 1817; in 25, 1818; in 22, 1819. The disease in 1801, was much milder in its symptoms, as I am well informed, and certainly, in general, of shorter duration than the epidemic which forms the subject of this report; in the former terminating in about 7 days or fewer; in the latter frequently continuing twice as long. In the course of twenty years the proportion of the number of deaths to that of the admissions, in each year, is very irregular; so much so, that conclusions drawn from thence, as to the success of treatment being progressive or retrograde, would be altogether groundless and fallacious. It would appear that the number of the yearly admissions and deaths had varied more considerably in the Waterford Fever Hospital than in most other similar institutions. This table seems to confirm the opinion that the mortality in fever is, comparatively, greatest when the numbers affected are least, or in other words, that epidemic is not so fatal as sporadic fever.

It would be perhaps impossible, but certainly most

difficult, to state where or how this epidemic first appeared in the city of Waterford and its vicinity. A reference to the first table will serve to shew, that there was an increase of fever in 1815, and that in 1816 there was some diminution, when compared with the preceding year. In December 1816,* 38 patients were admitted into the hospital, from which time the epidemic fever commenced its progress. This account agrees, in general, with the experience of most of the other large towns in Ireland. The small town of Passage, in Waterford Harbour, contained many persons affected with fever in 1816. The following year the disease made its appearance in Dunmore, Tramore, and other places on the coast; but whether it was derived from Passage by contagion, cannot be now ascertained. There was a rumour that a vessel, with fever on board, had put into the last mentioned place, and communicated the disease; but the account has not been authenticated. If we suppose the disease to have been imported, or introduced from another quarter, the circumstances of this part of the country were such as to give it a free and rapid course.

The condition of the inhabitants of this country at the period of the commencement of the epidemic, has been long since investigated and made public; and every one is now so familiar with the subject, that it may appear entirely superfluous to make any statement respecting it. But notwithstanding the truth of this, it still seems proper that an inquiry so important should receive from each reporter such testimony as he can truly and fairly

* Mr. Kehoe, Apothecary, of this city, has assured me that, in November 1816, he visited a great number of fever patients in the neighbourhood of Kilmacow, county Kilkenny, about four miles distant from Waterford. A dispensary has since been established there.

give, especially when he is convinced that his opinion is founded on facts within the sphere of his own observation, and not derived from sources which furnish similar information, although thus confirmed.

From the latter end of the year 1816 the food of the people was of a bad quality, and what is perhaps worse, deficient in quantity. Many of the labouring classes had no employment. At an inclement season of the year, when the evils of damp, cold, hunger, filthy habits and wretched dwellings, are felt in all their severity, it was not to be expected that the course of an epidemic disease could be resisted, which always thrives and increases under such circumstances.

For some time previous to the actual commencement of the epidemic, the state of the weather appears to have been unfavourable to general health. It had continued either wet or dry for long periods, and although the winds frequently changed their direction during those periods, yet the usual changes of weather did not follow. The effects of such an unseasonable state of the atmosphere were severely felt in the harvests of the preceding years, 1816 and 1817; but it is not so easy to ascertain what *direct* influence it has had on the health of the inhabitants of this country. It is not unreasonable, however, to conclude, that the human frame becomes unfavourably predisposed by so unusual a state of the weather, and more unable to resist the inroads of contagious disease. In a season of such distress, the wretched sufferers are almost necessarily forced to crowd together in close and filthy apartments, situations and circumstances unquestionably most destructive of health of body or of mind. Intoxication is frequently indulged in such meetings; and short lived exhilaration, purchased by lasting debility of body and depression of mind, by which all the evils of

their hapless condition are increased in a tenfold degree. Some, however, do not thus substitute slow poison for necessary food; they do not attempt to drown their sorrows in the cup of intoxication, but they brood over them in all the awakened horrors of foresight and recollection. Such will droop in silence, but they are blasted by the contagious breath of fever; and their "sickness of the heart" is soon swallowed up in its devouring flames. In fact many, very many of the poor in large towns, where misery is most squalid, pass their lives in a kind of habitual hopelessness and despair: in their deplorable circumstances, life itself is but little valued. No one needs to be told how unfavourable such a state is to the due preservation of health. The bad consequences are often visited upon the whole community.

Wherever attention was paid to cleanliness, the good effects were observable. It appears that in 1817, when the habitations of the poor were whitewashed, and straw beds supplied by direction of the Committee for managing the funds, raised that year for the relief of the poor, only four persons had been sent to the fever hospital, out of 1102 apartments so cleansed, when the return was made. The remarkable effects of the exertions of another Committee, formed in 1819, for the management of a fund, subscribed for the relief of sufferers from fever, shall be more fully detailed in another part of this report.*

Some persons have expressed doubt, whether the registers of the fever hospitals can be considered as *criteria*, by which the increase or decrease of fever is to be justly estimated. Now, while there is sufficient room in such institutions for applicants entitled to admission, it is by them alone that a correct judgment can be formed on

* See proceedings at Waterford, vol. 2, p. 326, No. XVIII.

the subject, no other documents being at once so precise and so accessible.

Fortunately for this city, there has been accommodation for all fever patients, during the whole course of the epidemic, with the exception of the two last months of the year 1818, when, for a short time, a few patients met with some delay in being admitted into the hospital. Very few persons are now found to object to being removed to the fever hospital, but, on the contrary, many who were not affected with fever, were desirous to be taken in, during the pressure of severe poverty and its consequences.* The physicians, on many occasions, have been besought by parents to admit their starving children. This is no exaggeration, but a matter of frequent recurrence.

* I recollect having given an admission paper to a woman ill in fever. The hospital chair was sent for her, but she had changed her mind in the interim, and her mother-in-law, aged 70, was sent in her stead, and by this means smuggled into the hospital.

TABLE II.

1817.	Admitted.			Dismissed.	Relapsed.			Died.			In Hospital 1st of each Month.	Country Patients.	Remarks.
	Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.			
Jan.	24	28	52	48			1	1	2	3	23	13	
Feb.	19	25	44	45			...	...	1	1	24	11	One case of Hydrocephalus removed.
Mar.	29	2	55	48			4	2	...	2	22	12	
April	20	26	46	52			...	1	3	4	28	6	
May	33	28	71	48			1	4	...	4	12	10	
June	35	38	77	75			3	1	2	3	31	12	
July	38	31	77	72			1	1	...	1	30	20	
Aug.	51	56	101	85			2	1	5	4	34	23	
Sept.	42	42	81	90			3	...	1	1	46	18	One case of Hydrocephalus removed.
Oct.	52	52	104	94			4	1	1	5	39	22	
Nov.	53	47	100	94			1	2	...	2	44	21	One case of Variola.
Dec.	69	55	124	115			1	4	...	4	48	25	One case of Variola.
Total	469	461	930	869			21	21	13	34	...	197	
1818.													
Jan.	62	65	127	100	1	4	5	3	3	6	59	23	
Feb.	47	57	104	113	2	3	5	2	2	4	71	17	
Mar.	52	43	100	107	3	2	5	...	1	1	58	24	
April	53	65	118	115	...	3	3	2	2	4	50	21	
May	51	63	114	108	1	...	1	6	2	8	43	29	
June	91	109	200	155	8	14	2	3	...	3	45	43	One taken away by his friends.
July	143	170	313	261	12	26	38	5	3	5	87	43	
Aug.	135	205	340	322	25	29	54	3	6	9	134	61	
Sept.	152	175	325	305	19	13	32	7	4	11	143	25	
Oct.	151	181	332	328	15	9	24	8	9	17	151	43	2 sent to wards for Dysentery, i.e. per Hospital.
Nov.	159	149	308	291	11	29	43	9	9	18	135	44	One sent to Leper Hospital.
Dec.	181	167	348	319	13	13	26	12	11	23	134	22	
Total	1277	1452	2729	2526	113	145	258	57	52	109	...	400	

TABLE II.—(Continued.)

1819.	Admitted.			Dismissed.	Relapsed.			Died.			In Hospital 1st of each Month.	Country Patients.	Remarks.
	Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.			
Jan.	11	184	371	31	34	10	54	0	14	24	140	32	
Feb.	21	41	46	85	57	49	106	14	8	2	177	50	
Mar.	19	13	57	49	58	60	118	10	15	25	224	54	
April	14	13	302	31	37	53	90	4	2	6	130	49	
May	10	17	277	254	23	18	4	7	10	15	141	39	
June	8	84	169	190	19	13	32	2	5	7	109	42	One case of Tetanus.
July.	7	9	167	168	10	12	2	1	1	2	81	45	
Aug.	70	8	156	138	9	7	16	2	5	7	78	34	One case of Variola.
Sept.	71	7	143	138	10	13	23	1	...	1	50	50	
Oct.	58	61	11	134	9	9	14	1	...	1	63	23	
Nov.	*		88	80						3	47		
Dec.			85	95						2			
Total			2636	2642									

In this table, in which the males and females are distinguished, is marked the number of admissions, relapses, and deaths; the number of patients dismissed every month, and the number remaining in hospital at the commencement of every month, are also noticed, together with the number of patients admitted, who did not belong to the city or its outlets.

The increase of the epidemic in the summer months of each year may be observed in the table, and the greater mortality during the winter and spring months, of the two last years especially. At these seasons, the fever has uniformly assumed an aspect of great malignity, the symptoms becoming truly formidable, and

* The omission of the numbers in these months has arisen from the table having been made out in the month of November. The totals were supplied subsequently.

the disease, in many instances, rapidly terminating in death.

The males and females admitted in 1817 were nearly equal in numbers, but the latter have been much more numerous in the two following years:—In November and December 1818, there was not hospital accommodation sufficient for all the females entitled to admission, so that the males preponderate at this period, as may be seen in the table. It was found more practicable to dismiss the males in greater numbers than persons of the other sex, who are often glad to remain in hospital, especially in an inclement season of the year. It has been remarked in the Reports of the Dublin Fever Hospitals, that the females admitted had, for many years, greatly exceeded the other sex. In the Hardwicke Fever Hospital, for the year 1813, 1814, and 1815, the females were to the males as 3 to 2: in the same hospital, in 1816 and 1817, the number of each sex was nearly equal, the females being, however, more numerous. But, in 1818, the males were more numerous than the females admitted into that institution. In the Cork-street Hospital, in like manner, the females had exceeded the males, until the year 1816, when the case was reversed; and in 1817 and 1818, the males still continued more numerous. In the report of that institution, for the year 1806, it is stated “that it has been ascertained that the proportion between them, (females and males) in the Liberty, is nearly that of 4 to 3. It is, however, probable, that the proportion of male patients in that hospital is increased by the influx of men to the capital, and the greater susceptibility of strangers to contagion, as before alluded to. The latter opinion derives support from the proportion of females to males admitted into the Waterford House of Recovery, being greater in that charitable establishment than the Cork-street Hospital.” In the Fever Hospital of the city of Cork,

the males were more numerous than the females, in the year 1815; but in 1816 and 1817, the latter exceeded the former. Whether the influx of strangers of the male sex into Dublin, has been so great as to raise the number of male patients in the fever hospitals above the former, and perhaps, the natural standard, is not yet ascertained; but, as the number of the females continues to exceed that of the males, in the Cork and Waterford Hospitals, the opinion advanced in the above quotation seems to have received additional support. It seems to be generally admitted, that women are more susceptible of fever than men are. Whether the doctrine lately advanced in the Edinburgh Review, as to greater or less susceptibility of contagion being influenced by the temperament of the individual, may not, in some degree, apply to the difference between the sexes in this respect, is not, perhaps, unworthy of further inquiry; but the circumstances of females of the lower orders, are certainly such as would lead one, *a priori*, to suppose, that they were more liable than men to the danger of infection from febrile disease. Their food is, perhaps, inferior in quantity, and often in quality, to that of working men; they are more employed about persons who may be affected with fever, and more frequently in contact with infected clothes, or *fomites* of contagion.

As to the comparative mortality of the sexes, in this institution, it appears that in 1817 there were 469 males admitted, and that 21 died, about 1 in 22: the females admitted in the same year were 461, of whom 13 died, nearly 1 in 36. In 1818, 1277 males were admitted, the deaths among whom amounted to 57, about 1 in 22; the females were 1452, and the fatal cases among them 52, or about 1 in 28. In 1819, to October inclusive, 1158 males have been admitted, and 50 have died, being less than 1 in 23. In the same period, 1325 fe-

males have been admitted, and 60 have died, about 1 in 22. It appears then that the mortality has gradually decreased a little among the males, while it has considerably increased among persons of the other sex. These facts remarkably coincide with similar ones, stated in the report of the Cork-street Fever Hospital, Dublin, 1810. From 1805 to 1810, inclusive, the mortality among the males, which at first was almost twice as great as that among the females, gradually diminished, until in the last mentioned year, there was scarcely any difference between the sexes in this respect; but the mortality among the females rose higher every year, until it equalled that among the males. The report adds:—"A fact so remarkable cannot be satisfactorily explained on any *data*, of which we are yet in possession. Can it arise from the habits of the lower class of females in this city daily becoming similar to the other sex, especially in the abuse of spirituous liquors?" In the report of the same institution for 1817, and a great part of 1818, it is stated that, "the disease (fever) proved more fatal to the males than to the females, particularly at the commencement of the epidemic, &c."—"Men are generally more liable than women to suffer from the effects of fever:"—"But in the progress of the epidemic this mortality diminished more, in proportion, among the males than the females."

In the Hardwicke Fever Hospital, during the years 1813, 1814 and 1815, the mortality among the males and the females was somewhat more than in the ratio of three to two. In the reports of the same hospital, for two years, ending 31st of March 1818, the difference between the sexes, in respect of mortality from fever, appears to be even still greater: in the year ending March 1817, 28 males having died in 306, whilst only 15 died out of 318 females; and in the next year 26 cases proved fatal in

368 males, whilst among 333 females there were only 17 deaths; and in the report of the Fever Hospital of the city of Cork, already alluded to, the mortality among the males, during the years 1815, 1816, and 1817, is stated to be considerably greater than among those of the other sex. It yet remains to be ascertained whether, in the further progress of the epidemic, the experience of the Hardwicke and city of Cork Hospitals shall agree in this respect with those of Cork-street and Waterford.

In the winter and spring of 1806-7, the attention of the writer was forcibly directed to the fatal effect of fever on the fathers of families. Several families in fever were admitted during that period into the Royal Infirmary of Edinburgh, of which the heads, almost without exception, became its victims, while the rest escaped. Similar coincidences have since that time been repeatedly observed by him; but in the multitude of deaths in the middle and later periods of this epidemic, the fact was not so much attended to as before. Scarcely any medical person needs to be informed that the age, habits, probably bad, or diseases derived from them, together with the greater mental anxiety and solicitude, naturally belonging to persons in this relative situation in life, must materially enter into the prognosis in all cases, and frequently have the worst effects in the termination of the disease. The widows and the orphans, who are so numerous in every quarter, can bear a sad testimony to the truth of this well known observation. Although the number of admissions into our hospital had been unusually great in the year 1817, yet the great increase was in the summer months. The admissions continued from this period without any material monthly alteration, until June 1818, when they were almost doubled, and in the next and succeeding months they were nearly thrice as numerous as they had been a short time before. It has been

remarked by different writers and reporters on fever in Ireland, that cold and wet summers are here the most heathful. The opinion seems to receive considerable weight from the state of the health of the inhabitants of this part of the country, where the drought and heat were excessive in the summer of 1818. I am not in possession of any register of the state of the weather at this period, but I have frequently observed the mercury at the 80th degree of Fahrenheit in the shade; and often above 100, once as high as 124, when exposed to the rays of the sun.

Many persons who had been travelling in other parts of Ireland, reported on their return, that the drought was greater here than they had observed in other places. Whatsoever may be supposed to have had influence, it is certain that the epidemic increased more and more in this district, after it had considerably declined or ceased in most other parts of Ireland. But it may be observed that it was milder and less extensive here, in the preceding year, than in the other large towns of this country, Dublin excepted; and it is perhaps to be expected, that great epidemic diseases will finish a certain course, and fill up a certain measure in the countries visited by them. The DYSENTERY also became epidemic in this city and its vicinity in the autumn of 1818, and may perhaps fairly be imputed to the unusually great heat and drought, aggravated by improper diet among the poorer classes.

In December 1818 there was an increase in the numbers admitted into hospital; this continued in the two following months,* but since that period the epidemic

* One wing of the Leper Hospital was, at this time, granted by the Master to the Fever House Committee, for temporary use. This part of the

has gradually and very regularly declined. The efforts of the Committee for managing a fund, raised for the relief of convalescents and other sufferers from fever, appear to have essentially contributed to this melioration in the state of those attacked by the epidemic. It was also by their exertions in discovering cases of fever that the admissions into the hospital were so much increased in the beginning of 1819.—*Vide Report of their proceedings in vol. 2.* At the present time (Oct. 20th 1819) there is sufficient reason to expect that the epidemic will soon disappear, and fever be found to exist here only in its ordinary degree.

The mortality in both sexes, for the year 1817, when estimated by the number of admissions, was 1 in 27; but by the number of dismissions and deaths together, which is the more correct mode, it appears greater, being 1 in 26. In 1818 the mortality, according to the former method, was 1 in 25; according to the latter, 1 in 24. For the first nine months of 1819 the mortality has been, by these modes of estimating it, in both cases, about 1 in 22. But in order to shew the comparative mortality, in periods of three months, a small table, exhibiting it in this manner, is here subjoined.

Leper Hospital consists of 4 very large and excellent wards, which, by great exertions, were fitted up for patients, and in which, at one period, upwards of 100 persons in fever were fully accommodated.

1818.	Admissions.	Deaths.	Mortality being nearly
1st Quarter	331	11	1 in 30
2d ditto.	432	15	1 in 28
3d ditto.	978	25	1 in 39
4th ditto.	988	58	1 in 17
1819.	...	...	...
1st Quarter.	1190	71	1 in 16
2d ditto.	708	28	1 in 25
3d ditto.	466	10	1 in 46
4th ditto.	309	6	1 in 51

The very great mortality in the winter 1818-1819, has raised the average mortality of each of those years above that of 1817. The gradual diminution of the number of fatal cases since that period affords a cheering hope in the future prospect.

Relapse into fever was not frequent in the year 1817. In the next year the cases of relapse occurring in the hospital amounted to 258. But when it is considered, that many returned to the hospital in a few days after dismissal, and that fever recurred in very many instances after a longer interval, we may fairly estimate the total number of such cases at not less than 600.

In 1819, all the cases of relapse, whether in or out of

the hospital, have been marked in the register, although distinguished from each other, amounting in the course of nine months to 498. There appears to have been no remarkable tendency to relapse in one sex more than in the other; the numbers of each being nearly equal.

It is not surprising, that many patients dismissed from the hospital apparently free from fever, and in some degree, fit to resume their employments, should again be speedily attacked with the same disease. All the circumstances, which concur with contagion in producing fever, at the first, are equally productive of relapse. Deep and progressive poverty, filth of persons and dwellings, and minds depressed and cheerless, soon caused many to return to the hospital, who in different situations would have been ultimately restored to the full enjoyment of health. The average number of days which each patient remained in the hospital, is found to be 16, as calculated from two pages of the register, taken without selection.

In the latter part of the year 1818, the hospital was much crowded, too much so indeed for the proper treatment of fever; two persons being very commonly to be found in one bed; and sometimes three children of the same family. Many of the convalescents were obliged to sleep on the floor without bedsteads. Under such circumstances, frequency of relapse was almost a matter of course. But besides these predisposing causes of relapse, there appeared a tendency to it, unconnected with unfavourable external circumstances. Many persons suffered relapse who were not crowded together, and who had every necessary accommodation. In July and August the crisis of fever often appeared imperfect or not of a decided character; in such a state of the epidemic, relapse very commonly ensued. The subsequent attack was generally

at this period, of short duration and of easy management, except when combined with dysentery, which now began to make its appearance in the hospital. In November and December, several cases were observed in which the symptoms of fever were very light, yet the countenance seemed to indicate something amiss; some persons in this state were very desirous to return home, saying, they were quite well; but in a few days relapse occurred, after which the disease seemed to be fully developed, and manifested the most dangerous symptoms, which frequently terminated fatally, and in other instances were subdued with the utmost difficulty. In such cases the previous apparent convalescence ought, perhaps, to be regarded rather as a remission of disease, than as a return to a state of health. Relapse in fever hospitals is, perhaps, in some degree to be attributed to many persons being subject to the same regulations as to air, temperature, diet, and such like; when varied treatment might be requisite for different individuals.

It appears that fever patients, admitted from the country adjacent to the city of Waterford, amount to about one-sixth of the entire number received into the hospital. As this institution derives and is entitled to equal support by presentments levied on the county, as well as on the city of Waterford, it is not unimportant to point out, that many persons belonging to the county, have received the benefit of the establishment. Several of these poor persons were found in the most deplorable circumstances, being deserted and ready to perish before their reception into the hospital. It is also fit, that these patients should be distinguished from those of the city, in order that the ratio of the number of fever patients to that of the inhabitants may be more fairly estimated, and that it may be seen that fever existed to no inconsiderable degree in the neighbouring country parts.

TABLE III.

1817.	1 to 10 inclus.	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60 and upward	Total
Jan.	7	17	12	12	2	2	52
Feb.	4	9	15	11	2	3	44
March	3	14	26	8	4	1	56
April	4	16	8	5	1	6	40
May	9	27	18	8	5	4	71
June	11	33	18	9	2	4	77
July	14	35	20	2	4	2	77
August	6	50	26	8	5	6	101
Sep.	15	23	25	8	10	3	84
Oct.	14	36	31	14	6	3	104
Nov.	17	37	21	9	7	9	100
Dec.	20	44	28	10	17	5	124
Total	124	341	248	104	65	48	930
Died	$2\frac{1}{28}$	$4\frac{1}{86}$	$6\frac{1}{41}$	$8\frac{1}{13}$	$6\frac{1}{11}$	$8\frac{1}{6}$	34
1818.							
Jan	47	47	19	8	5	1	127
Feb.	23	45	22	6	4	4	104
March	17	41	22	9	5	6	100
April	12	45	31	15	8	7	118
May	11	46	31	13	6	7	114
June	28	72	44	25	14	17	200

TABLE III.—(Continued).

1818.	1 to 10 inclus.	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60 and upward	Total
July	58	112	75	26	20	22	313
Aug.	52	117	80	40	26	25	340
Sep.	47	128	67	42	27	14	325
Oct.	38	112	95	47	25	15	332
Nov.	41	113	72	45	21	16	308
Dec.	53	133	84	59	23	16	348
Total	427	1011	642	315	184	150	2729
Died	17 $\frac{1}{25}$	22 $\frac{1}{16}$	16 $\frac{1}{28}$	22 $\frac{1}{14}$	16 $\frac{1}{7}$	14 $\frac{1}{7}$	1107
1819.							
Jan.	60	134	82	41	37	23	377
Feb.	63	177	117	56	27	16	456
March	71	123	92	39	20	12	357
April	56	105	74	39	17	11	302
May	44	78	54	32	16	13	237
June	27	74	38	10	9	11	169
July	38	66	33	18	7	5	167
Aug.	32	63	35	13	6	7	156
Sep.	31	55	24	21	4	8	143
Oct.	33	42	22	7	5	10	119
Nov.							
Dec.							
Total	465	917	571	276	148	116	2493
Died	17 $\frac{1}{17}$	11 $\frac{1}{23}$	23 $\frac{1}{25}$	17 $\frac{1}{16}$	2 $\frac{1}{6}$	10 $\frac{1}{2}$	110

* Two died whose ages were not marked in the Register.

In considering the history of an epidemic fever, it is desirable to be acquainted with the ages of these who may have suffered from it. Physicians are well aware, that the danger in such diseases is greater, the more advanced the age of the patient. This table exhibits the ages of all admitted into the hospital, monthly, classed under periods of 10 years. It has not been thought necessary to distinguish the sexes in this table. The amount of the mortality in each class, with its general proportion, is given for each year. In 1817 the three first classes suffered the least; in the following year, the mortality was more than doubled in the first class, and almost doubled in the second; and during the present year 1819, the mortality in the first class has been very little diminished since the preceding one; with the exception of the 1st, 2d, and 4th, all the classes have suffered considerably more in the present, than in the preceding year. But the difference in the mortality of the 2d class, in these years, is very great; by which the average mortality for 1819, is prevented from rising much higher than that of the foregoing year.

Throughout the course of the epidemic, persons advanced in years have suffered very considerably, but more in the beginning and towards the end of it than in 1818. This, however, appears to be accidental and not proper to the epidemic. But the fact of so many young children having fallen victims to the disease, has a very different aspect, the mortality among them being doubled since the first year of the epidemic. It is probable that such young children as are admitted into the Waterford Fever Hospital, would be excluded from most other similar institutions.* Hence it

* It has been stated in the report of the Fever Hospital of Cork, for 1817, that young children were not admitted there. And in one of the earlier reports of the Cork-street Hospital in Dublin, something similar is asserted.

may be difficult to compare the mortality in this class of persons, here and elsewhere. But the question of their actual mortality seems closely connected with that of excessive or superabundant population, which has been so ably reasoned upon, and clearly illustrated by Mr. Malthus, in his celebrated essay. The young children of the poorer classes must die in great numbers, during the prevalence of epidemic disease, in a country crowded with a population, unable to procure sufficient subsistence. There is arithmetical proof of it in the records of this Fever Hospital; and every one who has given attention to the subject knows that many, very many infants and young children, sunk under the epidemic dysentery in 1818. Many of the children under ten years of age, died in the hospital, not so much of fever as of other disorders which supervened: some of dysentery and diarrhœa, others of atrophy or marasmus. It seems probable that, since the introduction and general adoption of vaccine inoculation, the young victims to epidemic diseases have increased more than those of an advanced age. This, however, yet remains to be ascertained; but the time that has elapsed since this fortunate discovery was prosecuted with such philosophical patience by Doctor Jenner, and at length made public, is sufficient for a due calculation on the subject. It seems to be but too true, that "mortality must come, in some form or other," and that "the extirpation of one disease will only be the signal for the birth of another, perhaps more fatal." "Nature, (which is the order and constitution of things appointed by the Almighty) in the attainment of her great purposes, seems always to seize upon the weakest part. If this part be made strong by human skill, she seizes upon the next weakest part, and so on, in succession, not like a capricious deity, with an intention to sport with our sufferings, and constantly to defeat

our labours; but like a kind, though sometimes severe instructor, with the intention of teaching us to make all parts strong, and to chase vice and misery from the earth."

"While these, (plague and dysentery) and some other disorders, became almost evanescent, consumption, palsy, gout, lunacy, and the small pox, became more mortal."

—*Essay on the principle of Population, Book IV. Chap. V. passim.*

1817.	3d	4	5	th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22d	23d	24th	th	th	th	th	th	th	st
Total	3	15	32	47	57	49	54	64	72	73	57	79	65	50	41	29	27	11	13	2	4	4	2	3	36	27	28	29	30	31
1818.																														
January	...	1	2	4	9	19	6	10	12	9	9	15	2	4	2	7	2	2	1	2	...	...	...	...	...	...	...	...	...	2
February	1	1	2	6	1	23	4	11	7	8	1	3	17	1	1	5	1	2	...	...	...	1	...	...	...	...	...	...	...	96
March	...	...	...	1	7	4	23	4	11	6	6	2	3	21	1	...	6	...	1	...	3	...	...	...	...	...	...	...	...	96
April	1	1	...	5	2	20	5	19	9	11	3	3	13	4	2	6	...	3	2	2	1	1	1	...	...	...	...	...	...	113
May	...	...	...	2	7	9	9	8	14	4	10	6	7	9	5	3	7	1	2	2	1	...	...	...	...	...	...	...	...	107
June	1	3	7	23	24	52	17	24	3	8	7	4	10	2	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...	194
July	...	...	...	4	3	7	13	12	14	17	2	4	9	...	1	3	...	1	1	2	1	...	...	...	...	...	...	...	...	306
August	...	...	...	1	5	24	7	116	7	33	9	25	3	6	20	...	3	1	2	4	6	...	1	1	...	...	...	...	...	322
September	1	...	...	5	55	6	115	9	43	12	31	4	2	7	1	...	2	2	2	3	2	1	1	1	4	...	...	...	1	301
October	...	...	...	1	3	8	138	2	94	22	23	6	5	19	2	2	5	1	...	6	...	4	1	1	1	...	...	...	...	313
November	...	...	...	8	25	6	117	7	3	19	28	11	2	15	1	...	4	...	1	1	9	...	1	...	...	...	...	...	...	302
December	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	318
Total	1	...	...	319	90	844	102	7	137	139	...	51	114	22	16	51	18	20	27	18	...	1	...	...	...	...	...	...	...	2382
Subsequent re-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
laps-e, †	...	...	...	1	16	7	103	11	43	15	28	7	...	13	...	1	1	2	...	2	...	1	...	...	...	...	...	...	...	256
Number o,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
deaths on each	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
day, †	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	3	7	0	15	14	32	20	16	18	9	11	7	9	...	...	7	10	4	7	5	4	1	...	...	...	...	...	...	...	229

† This row of figures denotes the numbers of the cases of relapse, in which convalescence had previously occurred on the day placed over the respective column of these numbers.

‡ In this line are marked the number of deaths which occurred on the day over the column of each.

The fourth table has been constructed for the purpose of shewing the number of cases in which convalescence was considered to have taken place on certain days. The cases thus arranged for the year 1817, I owe to Mr. Kenney, the late apothecary of this institution. The register was kept by him, and the convalescence or improvement in each case noted by his experienced hand during 1818, as in all the preceding years of this establishment. When convalescence had not been marked in the prescription by the attending physician, he always estimated the time of favourable change by the improvement in the symptoms, which have been entered in these books by all the physicians, since or before the beginning of the year 1818. As the dates in the register are distinguished by the day of the month, it will readily be admitted that the construction of this table, for which, in every one of upwards of 3000 cases, a short calculation has been made, was a work of considerable time and labour; but as the result of the inquiry appears to me to be very satisfactory, I do not regret having bestowed either the one or the other on this subject. I am led to hope that others also will be pleased to see the result of this examination, especially as similar tables or statements have not been given in the two last reports of the Cork-street Fever Hospital, Dublin. In the report for 1816, Dr. Stoker says,—“The great increase in the numbers admitted into this hospital, and some other causes, have rendered it impossible to note the decline of fever with the same accuracy as during the first years, and requisite to furnish satisfactory results; the continuance, therefore, of those tables, which exhibited the period of fevers, is at present prevented, a circumstance much to be regretted on many accounts, &c.”

Dr. Barker, in his report of the same institution for

1817, and a great part of 1818, also observes, "In consequence of the unusual pressure of business at the hospital, the days on which fever began to decline have not been noted with the same exactness as formerly; and I regret it is not in my power to give accurate information on this head." The want of such information is evidently regarded as a *desideratum* by those gentlemen, who are well qualified to appreciate the value of the subject; and if the matter furnished in this table shall be considered as in some degree supplying it, I shall not, for this reason also, regret the trouble I have taken.

In order to render the table as complete as was in my power, the monthly results are given in separate lines, from which it appears that termination of fever on certain days, was more remarkable in the six latter months of the year than in the early ones. Those days, in the table, appear to have been the 6th, 8th, 10th, 12th, 15th, 18th, and 21st. Now it is well known that the days denominated *critical* are the 3d, 5th, 7th, 9th, 11th, 14th, 17th, and 20th. There seems to be no concurrence between those two series of days, and consequently no confirmation of the commonly received doctrine on the subject, from this tabular statement. But in this very apparent inconsistency will be found the greatest confirmation of the general opinion respecting *crisis*, and at the same time a voucher for the accuracy and truth of the statements. If they had been formed for the avowed purpose of establishing one side of the question, they would at once have been brought to bear on it, without appearing to be in opposition to it, unless indeed the most useless artifice and design be supposed to have been resorted to. The mode of reconciling the apparent discrepancy is very simple, although perhaps not, at first, very obvious. The physician noted convalescence in the case book, as having occurred on the day he first ob-

served the change, and the deduction of crisis was made by the apothecary from the combination of the symptoms in the same manner, but the critical change actually happened on the evening or night before, and must be referred in date to the preceding day. Thus the 6th day in the table is to be referred to the 5th as the critical day; the 8th to the 7th, the 10th to the 9th, and so with all the others in the series.

It appears then that one-third of all the cases noted, had some favourable change on the 7th day; almost one-seventh on the 5th, and one-ninth on the ninth day of fever. The 11th and 14th days are also remarkable for the numbers attached to them; and the 17th and 20th are not without interest, for the same reason. The days beyond these appear to have no importance or preference in the matter of critical change. Such remarkable coincidence in this respect, cannot be regarded as merely fortuitous; on the contrary, it may be fairly presumed that it would appear still more remarkable, if that nice discrimination, which is requisite for the proper investigation of the subject, could be on all occasions applied; but in prescribing for so many patients, this was often impracticable. The aggregate of the numbers, attached to all the critical days in 1818, is 1951, which is more than three-fourths of 2582, the entire number of the cases in which fever terminated before the 31st day. This proportion is much greater than Cullen records De Haen to have ascertained from the writings of Hippocrates, which was 107 out of 163 cases, in which fever terminated within the first 20 days.—*First lines of the Practice of Physic*, § CXII.

In the report for 1806 of the Cork-street Fever Hospital, Dublin, it is stated that, "the 7th day appears more frequently critical than any other in this city; a fact

that corresponds with what has been observed at the Waterford House of Recovery. We learn, however, that the 7th day was much more frequently critical in that hospital than here, a circumstance which, joined to that already noticed, in comparing the fevers of London and Dublin, confirms what has been said on the greater tendency to critical terminations on certain days in some situations than in others: thus, of 758 cases, of which a register was kept in the Waterford House of Recovery, 278 shewed symptoms of convalescence on the 7th day, and 70 on the 5th day." Thus, it appears that the tendency, which was observed in Waterford many years since, is still observable; and that the epidemic fever of 1801 (for to this period it is presumed the report just quoted alludes)* resembled the late epidemic in this respect.

It occurred to me, whilst noting the materials for this table, that, in cases of subsequent relapse, the previous convalescence had taken place on one of the unusual or the non-critical days, and a few cases, to which I immediately referred, seemed to justify the suspicion; but after examining all the cases of relapse entered in the register, I found that these cases did not appear to deviate from the ordinary course and period of convalescence. The result of this part of the inquiry, is represented in the row of figures immediately under the *Total* for 1818, from which it appears that 212 cases out of 256 had been considered as convalescent on the critical days.

In the last row of figures in this table is noted the number of deaths, which occurred on the day marked over the respective column of these numbers. The 9th is rendered conspicuous, by the number connected with it so much exceeding that of any other day. The doctrine of critical days is, no doubt, of importance,

* The Report above quoted alludes to the Epidemic of 1801. Editors.

although perhaps overrated by some eminent physicians ; and it is very desirable that documents for the elucidation of the subject should be furnished from the registers of fever hospitals. But until the distinction between *crisis* and such convalescence as permits removal from the sick ward is duly attended to, the inference from such documents must be partially incorrect. However, as the ways of error are numerous, while that of truth is single, the doctrine of critical convalescence seems entitled to greater authority than can even be expected from numerical demonstration.

TABLE V.

1817.	Age.	Male.	Female.	Day of Admission.	Day of Death.	Remarks.
January	24	1	...	5	9	Intoxicated at commencement of fever.
	35	...	1	13	19	
	45	1	...	...	...	Asthmatic.
Total -	-	2	1			
February	19	...	1	9	17	Disease of the lungs, combined with fever. Country patient.
March	30	1	...	9	14	Died convulsed.
	32	1	...	6	18	
Total -	-	2	...			
April	60	1	...	7	10	Visceral disease. Improper case for the hospital.
	32	...	1	10	12	Both hips gangrenous at admission.
	60	...	1	14	15	Dying at admission. Country patient.
	23	...	1	8	20	
Total -	-	1	3			
May	9	1	...	3	23	Symptoms of hydrocephalus. Erysipelas of face.
	40	1	...	5	11	7 days in a waste house before admission. Case hopeless. Country patient.
	50	1	...	7	8	Laboured under Pneumonia for many days: no fever.
	60	1	...	7	15	
Total -	-	4	...			

(Continued.)

TABLE V.—(Continued.)

1817.	Age.	Male.	Females	Day of Admission.	Day of Death.	Remarks.
June	63	1	...	7	9	Pneumonia for several days before admission.
	70	...	1	8	12	
	40	...	1	7	10	
Total -	-	1	2			
July	40	1	...	6	14	
August	60	1	...	8	8	Unfit case for the hospital.
	42	...	1	8	12	
	60	...	1	4	8	
	78	...	1	10	13	
Total -	-	1	3			
Septemb.	13	...	1	9	12	
October	22	1	...	3	6	In the 8th month of pregnancy. Sickly constitution. Malignant typhus: rapid in progress. Died of Croup.
	30	...	1	5	10	
	30	1	...	7	9	
	3	1	...	7	21	
	40	1	...	15	37	
Total -	-	4	1			
Novem.	50	1	...	8	12	Typhus gravior. Country. Do. Dying at admission. Country.
	45	1	...	7	9	
Total -	-	2	...			

(Continued.)

TABLE V.—*Continued.*)

1817.	Age.	Male.	Female.	Day of Admission.	Day of Death.	Remarks.
Decem.	36	1	...	3	21	Catarrh combined with Typhus.
	45	1	...	4	12	Typhus gravior.
	14	1	...	5	17	The legs, from the knees downwards, mortified in several places.
	16	1	...	8	14	Typhus gravior. Country patient.
Total of 1817 -	-	21	13			

TABLE V.—(Continued.)

1818.	Age.	Male	Female	Day of Admission.	Day of Death.	Remarks.
January	10	1	...	7	15	Typhus gravior.
	70	...	1	5	10	Do.
	48	...	1	9	14	
	50	1	...	6	9	Phthisis. Pulm ^r . Country.
	19	1	...	5	8	
	25	...	1	2	7	Died the day after child-birth.
Total -	-	2	3			
February	24	...	1	3	3	Died about 8 hours after admission.
	39	1	...	7	14	
	50	...	1	6	8	Dysentery.
	5	1	...	6	9	Died convulsed.
Total -	-	2	2			
March	19	...	1	4	16	Died convulsed.
April	7	1	...	8	19	
	14	...	1	3	9	
	21	1	...	4	11	
	18	...	1	4	9	
Total -	-	2	2			
May	17	1	...	11	27	Hæmorrhage from mouth and anus the day before his death.
	46	1	...	13	18	Malignant typhus: gangrenous extensive sores on back.
	66	1	...	8	10	Fever, with diseased lungs.

(Continued.)

TABLE V.—(Continued.)

1818.	Age.	male.	female.	Day of Ad- mission.	Day of Death.	Remarks.
May — <i>continued.</i>	...	1	...	...	...	A stranger : exposed all night : died the day of admission : never spoke : vomited blood a little be- fore his death.
	...	...	1	...	...	Died the day after admission : convulsed : no appearance of fe- ver.
	40	1	...	9	20	Died convulsed, unexpectedly and suddenly.
	30	1	...	5	16	
	80	...	1	5	9	Inflammation of lungs.
Total -	-	6	2			
June	60	1	...	3	3	Malignant fever : after conva- lescence from bad fever.
	67	1	...	2	8	
	66	1	...	4	12	
Total -	-	3	...			
July	8	1	...	3	12	Dysentery after atrophy.
	55	...	1	4	7	Catarrh combined with fever.
	43	...	1	5	11	
	35	1	...	4	12	
	37	...	1	5	13	Delirium ferox.
Total -	-	2	3			

(Continued.)

TABLE V.—(Continued.)

1818.	Age.	Male	Female.	Day of Ad- mission.	Day of Death.	Remarks.
August	11	1 ...		7	37	Dysentery after atrophy.
	30	... 1		4	9	
	50	... 1		3	7	
	30	... 1		3	4	Exposed at night. Fever ra- pid and malignant.
	22	... 1		3	10	Deformed with curved spine.
	14	... 1		4	9	
	37	1 ...		2	10	After convalescence and dis- mission from fever hospital. Dy- sentry or diarrhœa.
	9	1 ...		5	10	
	16	... 1		5	8	
Total -	-	3	6			
Sept.	17	1 ...		2	30	
	34	... 1		4	14	Dysentery.
	16	1 ...		2	6	Relapse?
	23	1 ...		2	10	Relapse?
	87	... 1		8	14	
	50	1 ...		6	16	Dysentery.
	18	... 1		3	6	Died convulsed.
	18	... 1		7	7	Died a few hours after admis- sion.
	3	1 ...		5	9	
	45	1 ...		2	4	
	40	1 ...		4	10	
Total -	-	7	4			
October	60	... 1		4	54	Dysentery, with mortification of the hips.
	35	1 ...		4	29	
	40	1 ...		3	12	
	45	1 ...		5	22	
	47	... 1		5	35	
	6	... 1		4	7	Hydrocephalus.

(Continued.)

TABLE V.—(Continued.)

1818.	Age.	Male.	Female.	Day of Admission.	Day of Death.	Remarks.
October-- <i>continued</i>	36	...	1	8	18	Dying when admitted. Do. died in a few hours after. Died on the 7th day of admission.
	15	1	...	6	7	
	14	...	1	11	11	
	13	1	...	..	...
	40	1	...	3	21	
	45	...	1	3	25	Diseased lungs. Had an abortion the day after admission
	21	1	...	4	18	
	30	...	1	4	10	
	45	...	1	3	7	
	30	...	1	6	9	
	30	1	...	6	9	
Total -	-	8	9			
Nov.	35	1	...	2	36	Not seen by the physician. Died a few hours after admission.
	30	1	...	3	22	
	5	1	...	6	14	
	24	...	1	5	15	
	50	1	...	9	10	
	40	...	1	2	8	4th day of admission.
	13	1	...	4	27	
	30	...	1	1	21	
	50	1	...	...	...
	40	...	1	4	7	
	16	1	...	2	9	Relapse.
	15	...	1	7	9	
	40	...	1	5	13	
	50	...	1	7	20	
	40	...	1	5	8	
	8	1	.	5	12	Relapse.
	50	1	...	2	5	
	13	...	1	10	11	
Total -	-	9	9			

(Continued.)

TABLE V.—(Continued.)

1819.	Age.	Sex.	Female.	Day of Admission.	Day of Death.	Remarks.
Dec.	40	1	...	6	13	
	22	...	1	5	10	
	10	1	...	10	12	Nose and ears first affected with gangrene.
	16	...	1	2	8	Relapse.
	6	...	1	2	19	
	9	1	...	2	11	
	18	...	1	4	9	Hospital servant.
	6	...	1	4	17	
	40	1	...	5	21	
	32	1	...	6	9	Gangrene spread all over the face and greater part of body in a few hours.
	7	1	...	4	19	Wasted away.
	22	1	...	6	13	Nose and ears livid and gangrenous.
	3	...	1	6	17	
	70	1	...	5	7	Died before 2d visit.
	40	...	1	7	12	
	16	...	1	8	11	
	16	...	1	6	9	
	10	...	1	2	7	
	8	...	1	3	6	
	50	1	...	6	10	Nose and ears gangrenous when admitted.
	44	1	...	5	5	Died six hours after admission.
	35	1	...	3	5	Catarrh, combined with typhous fever.
	5	1	...	2	5	Relapse.
Total of 1818	-	-	57	52		

TABLE V.—(Continued.)

1819.	Age.	Male.	Female.	Day of Admission.	Day of Death.	Remarks.
January	45	...	1	11	18	Mortification of the extremities, &c. appeared on the 15th day of fever.
	27	...	1	4	6	2d relapse; very malignant symptoms.
	19	1	...	3	9	3d relapse.
	14	...	1	3	24	
	30	...	1	7	10	
	50	1	...	6	27	
	70	...	1	4	8	
	50	1	...	4	12	Gangrene of nose and ears, commencing with erysipelatous blisters.
	60	1	...	7	19	Marasmus senilis.
	50	1	...	2	5	2d relapse.
	25	...	1	7	9	
	30	1	...	4	12	Hepatitis.
	10	...	1	2	3	Gangrene of tip of the nose.
	54	1	...	3	4	2d relapse.
	50	1	...	5	15	
	24	...	1	5	9	Died suddenly.
	40	1	...	4	16	
	45	...	1	6	19	Died suddenly; lungs affected.
	8	...	1	6	9	
	50	...	1	2	6	Erysipelas of head and face: extensive livid blotches on the body.
	50	...	1	...	...	Was found dead in the chair, when brought to the hospital.
	44	...	1	5	10	Skin of a saffron colour.
	40	...	1	6	10	Died of debility.
	30	1	...	6	11	
Total -	-	10	14			

(Continued.)

TABLE V.—(Continued.)

1819.	Age.	Male.	Female.	Day of Admission.	Day of Death.	Remarks.
February	60	1	...	8	42	A case of Marasmus.
	9	...	1	5	19	Face, ears, and neck of a livid colour.
	8	...	1	10	19	
	42	1	...	5	15	
	70	...	1	2	8	
	44	1	...	7	21	
	60	...	1	5	12	
	34	1	...	5	9	
	13	1	...	2	17	4th relapse.
	35	...	1	3	10	Nose, cheeks, lips and ears livid.
	4	1	...	3	5	
	25	...	1	5	11	
	25	1	...	9	16	
	35	1	...	5	9	
	60	1	...	2	6	Relapse.
	50	1	...	5	20	Died suddenly.
	23	1	...	7	11	Nose and lips livid.
	38	...	1	13	16	Hopeless on admission; after premature delivery; universal convulsions, deglutition impeded.
	29	...	1	2	6	Relapse.
	50	1	...	...	...	Died eight hours after admission.
	4	1	...	5	7	
	23	1	...	5	7	Biliary obstruction.
Total -	-	14	8			
March	30	1	...	5	19	
	26	1	...	2	41	Relapse. Legs anasarcous and gangrenous.
	8	...	1	2	13	Extensive gangrene of back, after a blister. Relapse.
	60	1	...	3	21	Relapse.

(Continued.)

TABLE V.—(Continued.)

1819.	Age.	Male.	Female.	Day of Admission.	Day of Death.	Remarks.
March—	13	...	1	7	14	
<i>continued.</i>	36	...	1	2	9	2d Relapse.
	40	...	1	6	23	Had an abortion three days after admission.
	36	...	1	5	22	After a similar event.
	70	1	...	4	8	
	25	...	1	2	11	4th relapse; extensive gangrene of hips and occiput.
	5	...	1	2	7	Relapse.
	5	1	...	2	10	Do.
	28	1	...	2	22	Do.
	60	...	1	5	6	Pneumonia.
	50	...	1	6	16	
	45	...	1	2	5	Relapse.
	17	...	1	9	19	
	75	...	1	5	9	
	41	1	...	13	29	Dysentery.
	7	1	...	5	10	Symptoms of hydrocephalus. Died in convulsions.
	5	1	...	...	...	Fourteen days after admission
	9	...	1	2	11	Relapse.
	35	...	1	13	15	Came into hospital much exhausted after parturition.
	50	...	1	7	13	Pneumonia with fever.
	4	1	...	2	8	Relapse.
Total -	-	10	15			
April	20	...	1	11	27	Abscess in lungs.
	50	1	...	9	23	
	40	1	...	8	13	Typhus gravior.
	36	...	1	5	8	Relapse
	40	1	...	2	18	Do.
	34	1	...	7	12	
Total -	-	4	2			

(Continued.)

TABLE V.—(Continued).

1819.	Age.	Male.	Female.	Day of Admission.	Day of Death.	Remarks.
May	36	1	...	7	49	Hæmorrhage from bowels.
	60	...	1	2	36	Relapse. Marasmus.
	22	...	1	2	25	Do Phthisis pulmonalis.
	70	...	1	6	22	Cheeks and nose livid before death.
	16	1	...	5	17	
	60	1	...	...	...	Never spoke after admission
	24	1	...	3	12	
	25	...	1	5	11	Hepatitis.
	46	...	1	6	14	
	5	...	1	7	16	Appearances of hydrocephalus.
	50	...	1	5	18	
	30	...	1	6	17	
	20	...	1	2	6	Relapse. Suffered abortion in the hospital.
	30	...	1	4	13	
	...	1	...	...	...	A boy, exposed 48 hours; never spoke after admission; died the day after.
Total -	-	5	10			
June	41	1	...	5	9	
	50	...	1	6	11	Relapse.
	73	...	1	5	9	
	20	...	1	...	...	Uncertain on what day she was attacked.
	50	...	1	8	11	
	15	1	...	5	7	Pneumonia.
	21	...	1	11	16	
Total -	-	2	7			

(Continued.)

TABLE V.—(Continued.)

1819.	Age.	Male.	Female.	Day of Ad- mission.	Day of Death	Remarks.
July	42	...	1	3	9	
	27	1	...	7	11	
Total -	-	1	1			
August	11	...	1	5	14	
	5	1	...	4	17	
	70	...	1	...	...	Died on the 3d day after ad- mission; had suffered under 2 months previous illness.
	70	...	1	...	...	Time of access of fever also uncertain in this case, which was an irregular one; died 3d day of admission.
	6	...	1	4	7	Died suddenly. Cynanche maligna.
	15	...	1	3	9	Hydrocephalus.
	25	1	...	...	...	Died 7 days after admission; left at the hospital gate the whole night before admission.
Total -	-	2	5			
Sept.	40	1	...	7	23	On opening this man's head, there appeared a caries of the internal table of right parietal bone; about 2oz. water also contained in the ventricles. He had more the appearance of a stupid idiot than of a person in fever, from the time of his admission.
October	67	1	...	8	41	Marasmus. Omentum much wasted.
Total of 1819 -	-	50	62			

In the fifth table are noted the age and sex of the cases which terminated fatally; the day of fever on which the persons were admitted, and also the day on which they died. Such remarks of the attending physician, as regarded these cases, are briefly added, which shew how hopeless many of them were at the time of admission. In 1817 there were only 16 under the age of 40 years; eight were of the age of 60 and upwards; twenty-two were admitted on the seventh day of fever, or later; and seventeen died within the fourth day of their admission. During the two following years, a remarkable change occurred in the proportion of mortality in the classes of different ages; but a careful inspection of this table will shew that, in the course of the epidemic fever, cases of the worst description have been constantly sent into this hospital. No selection of cases can be made, for all the practising physicians in Waterford are authorized to send patients to the Institution, just as much as the medical attendants of the hospital. Indeed, on some occasions, there has been cause to regret that improper cases were sent in; but such occurrences are almost unavoidable. In 1818 several children were brought into the hospital, in the lowest state of debility, and some of them fell victims, not to fever, but to want of nutrition, as they could not be prevailed upon to take any nutriment, or were incapable of retaining and digesting it. Many died of dysentery, and of inflammatory local disease; and ten persons were literally dying when they were admitted into the hospital. Abortion, and combination of other diseases with fever, may in some degree account for this formidable table of mortality, which, however, making every allowance for untoward circumstances in the cases of patients, seems to have been principally derived from the state and nature of the epidemic itself.

A reference to the month of December, in the table for this year, will sufficiently evince this opinion; symptoms of the most alarming appearance having now manifested themselves, and running their malignant course with astonishing rapidity.

For the months of January and February of the next year, (1819) the same symptoms were frequently observed, and whenever they were of a decided and exquisite character, were, I believe, uniformly fatal in their termination. Cases of a combined description, similar to those of the preceding years, are to be found in the table for 1819, and many of them in such a state as to exclude all hope of final recovery. On one occasion, well known to this city, the patient was found dead in the hospital chair, when it arrived at the gate.* Other patients never spoke after their admission, and death was become quite familiar to the officers and servants of the institution.

As to the general character of the epidemic, it appears to have been of the nature of the fever which has for so long a time existed in this country; but variously modified by the influence of the seasons, or, perhaps, by unknown causes. It seems highly probable, that what was once erroneously considered as the *sole* cause of epidemic fever, under the name of an epidemic constitution of the atmosphere, has existence, although imperceptible except in its effects. It may depend on the sensible qualities of the atmosphere, such as the degrees of tempera-

* I recollect having gone to visit a patient reported to be in fever, whom I found dead, apparently from malignant fever, after a short illness. This occurred during the operation of the fund for convalescents, when neglect or delay could not take place. I think I have heard of similar occurrences with others of the medical visitors.

ture, of dryness and of moisture, with their combined modifications and periods of continuance. Occult causes must be sometimes allowed to have, at least a share, in producing effects which cannot be otherwise fully explained; and it is, perhaps, as unwise to reject the admission of unknown existences, where the facts with which we are acquainted are insufficient for explanation; as it is unphilosophical to substitute hypothesis for experiment. A judicious writer in a late number (62) of the *Edinburgh Review*, seems to admit the reasonableness of the supposition, that such a constitution of the atmosphere does exist, and alleges his reasons for the opinion. In fact without it, or some such as yet unknown existence, the prevalence of epidemic disease at certain periods, cannot be satisfactorily accounted for. Previous war, subsequent peace, with the great changes in society effected by them; poverty, arising from want of trade and employment, injurious habits both of the mind and of the body; with the causes of fever, usually denominated concurrent; the specific contagion of typhous fever never absent from the country—all these, it is presumed, have been found to exist together, without producing epidemic disease to any considerable extent. Something appears wanting to give efficacy to their concurrence, as the component parts of a chemical substance may be found mixed together, but the generation of the new compound is not effected, but by the electric spark. It appears to me, that the great tendency to relapse even under the most favourable circumstances, when the epidemic was at its acmé, is an additional argument in favour of an epidemic constitution of the air, or of a certain state of the human body disposing it generally to the reception of febrile disease.

In 1817, the epidemic appeared to exhibit, in general, the symptoms of low typhous fever, which became more malignant as the year advanced. Combinations with

other diseases or local derangements, were not of ordinary occurrence. If this were not the case, the mortality would have been more considerable at that period; and the medical attendant more frequently perplexed by contra-indications, as they are technically called, or symptoms requiring opposite modes of treatment.

Of about 250 cases, which fell under my care in November and December of that year, the majority had eruptions of spots of various appearance, as to size, shape and colour. They were generally of a diffused appearance, gradually shaded off, and insensibly disappearing, and of the size of a grain of hempseed; but sometimes much larger or much smaller. The distinct well defined petechiæ were frequently seen, of a bright brown or purple colour. Blotches were in a few instances observed, of bright red colour and irregular shape, principally on the face and forearms. A mottled and marbled appearance was of common occurrence. The shoulders seemed to be more frequently affected by these eruptions; but the whole surface of the body was often covered with them. In two instances the distinct petechiæ, in very great abundance were observed on the face, more especially the forehead, which is, I believe, of rare occurrence. In 1818 these spots, although frequently observed, were not of such ordinary occurrence as in the preceding year. The diffused spots were much more rare, but the true distinct petechiæ were now and then seen, especially towards the latter end of the year; almost always in those cases where livid gangrenous blotches appeared. At this period and in the early months of 1819, these latter symptoms occurred in several instances, and almost without exception, were of fatal termination. In some of these cases there was a degree of coma, or stupor; but in many of them the mental derangement amounted only to slight delirium, with a disposition to

talkativeness. The livid colour generally made its first appearance at the extremity of the nose, and in various parts of the ears, and soon after large gangrenous spots and blotches were to be seen on different parts of the body, the shoulders especially. In one case the entire face, and the greater part of the body, became of a dark livid colour in the course of a few hours, which, as was usual, spread from the nose.

CASES in which the livid and gangrenous appearances were remarkable,—with fatal termination.

JOHN HENNESSY, AGED 32.—*December 14th*, 1818.

Six days ill; T. whitish, soft; P. 100, weak; slept badly. B. slow, headach and general pain.—15. P. 94, headach continues. Tolerable sleep, eyes shinning. B. free.—16. T. whitish, slept very badly, if at all; P. 108, weak, slight general pains; B. free. At this period I felt little or no uneasiness about this patient. He had been purged after the first visit; fomentation of the legs, and beer were ordered then and on the two subsequent days. My surprise was great, on being told when I visited the house on the 17th, that he was dead. Indeed I was not sufficiently acquainted with the man to know him by name, and could not recollect any thing of his case until I went to his bed. There were ten or twelve patients whose cases appeared to me to be more alarming than his. I found the following statement in the case book written by the apothecary:—

"8 A. M. About three o'clock this morning became delirious, was seized with a rigor, attended, as the nurses say, with a livid appearance of the nose, which has extended now all over his face and ears. Resp. hurried, with a kind of spasmodic effort to catch his breath. P. quite indistinct; shivering, B. free. *Applicetur. emp. canth. inter. scap. ℥viii. vini calidi.*—11 o'clock. Died half an hour since."—At 2 P. M. his face and a great part of his body were of a livid hue, approaching to blackness.

THOMAS SAUCE, AGED 24.—December 4th, 1818.

Ill five days, no complaint but of weakness. P. 72.—5th, no complaint of pain. P. 72.—7th, sent to the convalescents' ward. He was allowed beer and a little wine. He returned ill in six days. December 15th.—T. clean; P. 120; face sallow; low delirium; no pain. *Head to be shaved, blister to occiput; purging powder; fomentation of the legs; wine 6oz. with water 10oz.*—16th. Cheeks flushed, with an erysipelatous appearance; restless delirious night; P. 120; T. dry; pain between the shoulders; belly slow and rather hard; *castor oil and spirit of turpentine draught immediately; wine 8oz. turpentine injection in the evening; fomentation of belly and legs; beer ad libitum; spruce beer.*—On the 17th the apothecary had noted "the livid appearance of his nose and cheeks rather increased. P. quick and languid; *vini ℥iv.*"—I now found his Resp. 40; P. 114; since yesterday his nose has become livid; tolerable sleep; B. too loose; complains of pain of his heart; T. dark, not dry; extremitities warm. *Wine 12oz. punch; spruce beer; fomentation.*—18. T. blackish but moist; natural colour of nose almost restored; P. 108; slept well; B. free; face flushed; says he is better; very little delirium.

--19th. P. 120. Tremors and subsultus; nose more livid to day; a livid spot about the size of a silver 5d. appears on the left knee; slept tolerably: B. slow. *Wine 1lb. continue the rest diligently.*—20th. P. 112. T. dry; slept well; B. free; seems better; *continue.*—21. P. 114, weak; slight subsultus; had a bad night; B. free; T. teeth and lips black; dislikes the wine, but relishes the spruce beer. *Wine 10oz. spruce beer frequently; punch 1lb. fomentation; tea; flummery.*

On the next visit I found him dead. His death, was in some degree sudden, and quite unexpected.

JOHN RAYCROFT, AGED 44.—*December 25th, 1818.*

Ill five days. On visiting the hospital this day, I found the following account of this patient, written by the apothecary in the case book. “8 P. M. Numerous livid petechiæ on the chest and shoulders. Resp. hurried; P. 112, wavering; T. dark brown in the centre, clean at the edges; constant muttering delirium, with frequent efforts to leave his bed; no stool since his admission at five this evening; subsultus; hiccough. *Purging powder; blister over the entire head; wine.* 12 o'clock at night he became so furious that the strait waistcoat was required to be used before his head could be shaved; *died* whilst I was in the ward.”—As well as I can recollect, the skin of this patient was very yellow; and the petechiæ large and livid, when I saw him in the room for the dead.

DANIEL HALILA, AGED 50.—*December 26th, 1818.*

Ill seven days. P. frequent, not less than 120, but ir-

regular and vacillating; feet cold; no complaint of pain; seems restless; bodily anxiety; skin of a yellow hue; nose and ears livid. *Wine* 1oz. *every hour*; *fomentation*; B. slow; *castor oil*; *spruce beer ad libitum*; *strong beer mulled*. His thighs are covered with spots resembling the true petechiæ.—27th. Livid appearance of the nose better defined, and of a deeper hue; skin of a tolerable clear yellow; T. soft, a little whitish; tolerable sleep; toes and insteps of a light purplish colour and painful; slight pain of nose; P. 128, feeble; B. free; complains of loss of strength; raves during sleep, but speaks now quite coherently. *Wine* 30oz. *punch* 2lb.; *strong beer ad libitum*; *continue the rest*. \mathcal{R} *tinct. cinchonæ* \mathfrak{z} iii. *tinct. opii*. \mathfrak{z} ss. *acidi sulph. diluti* 3ii. *aq. menth pp.* \mathfrak{z} vi. *Theriac. communis* \mathfrak{z} ss. *m. coch. mag.* qq. *hor. sumatur*. Half past eight, P. M. P. 132, much stronger than in the forenoon; seems to relish his wine, punch, &c.—28th. Died at three o'clock this morning; much affected with hiccough before his death.

This man's case was alarming and indeed hopeless from the time he was first visited. The wine, punch, and other remedies appear to have raised his pulse, but to have had no other effect, except perhaps, that his life was prolonged a day or two by these means.

WILLIAM BRUNTON, AGED 23.—*February 15th, 1819.*

Ill seven days. Usual symptoms; B. free. *Diluents*.—16th. Fever lessened; perspiration. *Oranges*; *strong beer*.—17th. Smart fever; great thirst; B. free. *Tea*; *ant. pulv. gr. ij. ter quotidie*, Eight o'clock, P. M. P. quick and small; breathing hurried; B. tense and painful; Resp. slow. *Castor oil injection*.—18. Died at four o'clock this morning.

Lips and nose livid. He ate the usual supper for fever patients, and seemingly as well as the other persons in the ward.

I did not see this case; but it appears to have been very rapid in its course, towards the termination of it.— Besides these cases of men, I have the following names of females who were similarly affected, and whose attacks were mortal:—

1818, date of attack.		1819, date of attack.	
<i>Sarah Hanigan</i>	- 11 Dec.	<i>Ellen Kennedy</i>	- 16 Jan.
<i>Eliza Dwyer</i>	- 14 do.	<i>Honor Kelly</i>	- 20 do.
<i>Margaret Sheehan</i>	20 do.	<i>Mary Morrissy</i>	- 23 do.
<i>Alice Nowlan</i>	- 21 do.	<i>Mary Barry</i>	- 5 Feb.
<i>Anne Kennedy</i>	- 18 do.	<i>Ellen Clarke</i>	- 19 do.
<i>Ellen Sauce</i>	- 27 do.	<i>Mary Meyler</i>	- 4 Mar.
<i>Ellen Hogan</i>	- 10 Jan.		

In many cases, the eyes and skin were of a deep yellow hue, but this symptom alone, was by no means a fatal indication, several instances of recovery having occurred, when the skin was of a bright yellow and icteroid appearance. In September and October 1819, two cases fell under my care, in which gangrene about the head had commenced; in one, the large livid blotches and spots on various parts of the body, and the upper half of one ear, were of the most decided and well defined character; both of which cases recovered.

CASES of gangrenous appearances, ending in recovery.

JUDITH ATKINS, AGED 10, admitted 14th August, 1819.

Three days ill; usual symptoms.—15th. Severe head-

ach; P. 140.—16th. Headach continues; P. 140, sharp; skin hot; T. clean: *V. S.* 8oz.—18th. Blood natural; head relieved after the bleeding; slept badly; headach returned; P. 144, hard and sharp; skin very hot; *V. S.* to 10oz. in the evening; P. 144; blood natural; headach not better; B. free. *Vesicat. inter scap.*—19th. P. 108; skin cool; head quite relieved.—20th. Convalescent. 30th.—Relapse; P. 140. On taking charge of the hospital on the 1st of September, I found this girl in the female convalescents' ward, and dismissed her on the 8th. she appeared very delicate and weakly. On the 15th of September she returned to the hospital relapsed.—16th. T. foul; no sleep; great thirst; delirium; B. slow; P. 126.—17th. T. foul; tolerable sleep; no delirium; pain of back; B. free; P. 132.—18th. Nearly as before.—19th. P. 152, irregular and weak; T. soft but foul; B. free; slept badly; no pain.—20th. No sleep; great thirst; face flushed and swoln; P. 164; T. foul and soft; B. free; in the evening she was speechless and could not swallow drink. *Head to be shaved and blistered; 2oz. of wine.*—21st. No sleep; P. 140 tolerably firm; four or five large stools from an injection; T. soft; no pain; 4oz. of wine.—22d. No sleep; slight strabismus and twitchings of the muscles of the face; delirium; B. free; P. 132; general soreness; no nausea. *Anodyne injection; beer; tea; digitalis; fomentation.*—23d. No sleep; B. free; stools passed in bed; several gangrenous blotches on different parts of the body, head and limbs; P. 120. 8oz. wine; beer; tea; anodyne draught; diachylon plaster to os sacrum.—24th. Gangrenous blotches extending in some parts, stationary in others; slept well; B. slow. *Injection, purgative mixture, anodyne, 10oz wine, beer, tea, lemons.*—25th. Slept well; B. regular; P. 106, weak; gangrenes as before. *Purgatives omitted; other articles continued.*—26th Slept well; B. free; blotches as before, a tumor appears connected with that on the occiput. *Fermenting poultice, beer, tea,*

flummery, wine 10oz.—27th. Tumor of occiput looks better and discharges thin matter; slept badly; P. 120, small and hard; blotches of a lighter colour; B. free. *Anodyne, wine, &c. roasted apples with sugar.*—28th. Tumor darker; discharge not copious: slept well; B. slow; P. 112, rather hard. *Rhubarb, continue as before.*—29th. Tolerably easy night; B. slow; eschar forming on occiput; other gangrenous parts as before; P. 120. *Wine 8oz. strong beer, table beer, tea, flummery.*—30th. Countenance looks better; slept well; B. slow; T. soft; P. frequent. *Wine 6oz. continue the rest.*—October 1st. Eschar separating and elevated; restless night; B. slow; P. very quick. *Purging powder, anodyne at night, continue the rest.*—2d. P. 120; slept well; B. regular. *Omit p. powder, continue the rest.*—3d. The gangrened part of the left ear, nearly one half, has come away; sloughing of occiput goes on; sleeps well; B. regular. *Continue as yesterday*—4th. *Continue.*—5th. *Do.*—6th. improves. *Continue.*—7th Slept Tolerably well; B. regular, two stools. The nurses report that her body was almost entirely covered with maggots this morning; the bed and sheets also full of them; has been just cleaned; fœtor excessive; P. 120, weak. *Wine 8oz. mixture of bark and sulphuric acid, continue the rest.*—8th. A considerable quantity of maggots, about half an inch in length, remained in the removed sheets. A portion of the cranium at the occiput laid bare, nearly two inches in diameter; sores in different parts, clean, not filled up; B. regular; slept well. *Every thing continued.*—9th. No maggots to be seen to day, they probably came from the eschar over the *os sacrum*; slept well; B. free. *Continue as yesterday, with half diet.*—10th. Goes on well.—11th. P. 140. *Wine 6oz.*—12th. P. very quick; improves. *Allowed a bit of meat, wine 4oz. bark mixture.*—13th and 14th. As before. *Wine 2oz.*—16th. P. 136.—17th. Full diet. At the end of the month, this child continued to improve every day;

but the granulations of flesh at the occiput were unhealthy for several days, and it was necessary to repress them by stimulant applications. The denuded part of the occiput was covered with black spots, and it seemed likely, that some exfoliation would take place. At three different periods of this child's illness, I despaired of her recovery. 1st. From a consideration of the symptoms on the 21st September and two following days, I feared some organic derangement within the head. 2d. The symptoms on the 23d, were such as had hitherto, to my observation, proved fatal; the previous struggle too that the child, of a very delicate constitution, had undergone, afforded still less ground for hope. 3d. For the same reason, I had little or no expectation that she could endure the symptomatic fever, which occurs in the stage of sloughing of the gangrened parts, and under which many a stronger person has sunk.

CATHERINE FINLAN, AGED 24.—*September 16th, 1819.*

Seven days ill. T. very foul; P. frequent; general pain; B. free. *Purging powder, stuping, washing.*—17th. P. 100; T. foul; large red spots on the body; no sleep; B. free; general pains; no headach. *Stuping, washing, beer.*—18th. P. 104; spots not so high coloured; T. foul; no sleep; B. slow; no headach; pain of back severe. *Castor oil, stuping; (wishes for) sour milk.*—19th. Asleep; no sleep during the night; pain of back; P. 104; B. free. *Turpentine liniment, stuping.*—20th. Bad sleep; T. foul; eyes reddish; B. free; pain of back as before. *Continue.*—21st. Passed a bad night; stools involuntarily in the bed; T. foul; P. 116; belly sore. *Head to be shaved, and occiput blistered, anodyne injec-*

tion, fomentation of belly and legs, tea, mulled beer.—22d. Restless night; T. foul; B. slow; wheezing; P. 120, weak; no headach. *Castor oil, injection in the evening, anodyne draught, wine 6oz. strong beer, tea.*—23d. P. 116; slept in the morning; T. foul; says she is better; B. free; stools in bed. *Continue, except the purgatives.*—24th. Slept well; moaned in her sleep; B. slow; P. 116, strong; T. soft. *Wine 6oz. strong beer, tea, castor oil.*—25th. Tolerable sleep; gangrenous blotch on occiput; T. soft; P. 100, weak; Stools in bed. *Wine 12oz. strong beer, tea.*—26th. No sleep; B. regular; gangrene extending; P. 116, stronger; stools still passed in bed. *Fermenting poultice, anodyne, continue as yesterday.*—27th. Slept well; B. free; no complaint; countenance better; occiput looks well; P. 96; T. soft, foul. Convalescent, *strong and table beer, flummery.* This patient continued to improve gradually; she was removed to the convalescents' ward on the 7th of October, and soon after was dismissed well. Her case does not appear so formidable on paper, as it appeared to me at the time of attendance. It is probable, that the gangrene of the occiput was caused in part by the blister. I did not expect that any destruction of the part would take place. The patient was a servant in a gentleman's family, and exhibited the nervous symptoms and restlessness which are often observed in such persons.

In March there was also a case in which the colour of the nose was not livid, but of a dark red, with pustular eruptions, which had a favourable termination, although relapse afterwards took place. There may have been other cases in the hospital somewhat resembling these, which terminated in recovery, but I am not aware of them. About this time (October 1819) the diffused spots

with a dusky marbled appearance were occasionally, but rarely observed. Dr. Barker, in his report of the Cork-street Hospital, Dublin, states, that he has "for some time entertained the opinion, that sufferers from fever, attended with this (petechial) eruption, if they are not altogether secured by it from a second attack, are not at least so liable to it, as those who have had a fever of the ordinary kind." And in continuation he says, "though I have frequently made the inquiry, I have not found a patient in whom this symptom was distinct, who had suffered from the same fever on any former occasion. The analogy which this bears to other fevers, more especially to that which appeared at Gibraltar, and also to some exanthematous diseases, lend support to the opinion of its rarely occurring more than once in life. But whatever may be the result of more minute inquiry, it may be asserted, that the chances of the recurrence of fever diminish in proportion to the continuance and severity of the first attack." It appears to me that this opinion is supported by experience as well as by reasoning from similar facts. Since I first observed this remark, I have kept the subject in view, and after some attention to it, I have not been able to ascertain that more than three persons, out of many hundreds, who came within my observation, have had relapse or recurrence of fever, after being previously affected with the symptoms in question. I do not indeed assert that my inquiry has fully ascertained the truth, for I suppose that other cases of a similar nature have escaped my observations; but I am satisfied that if the recurrence of fever, under such circumstances as are stated by Dr. Barker, was not very rare indeed, I should have discovered more examples of it.

CASES of relapses or recurrence of fever, in which petechiæ appeared during the first attack,

JAMES RYAN, AGED 40.—*Admitted 24th November, 1818.*

Ill six days. T. of a yellowish white; petechiæ numerous on the trunk, arms, and neck; a few on the face; P. 116, soft; B. slow; no pain; weakness.—25th. T. moist, clean; slept well; B. freed; no pain; petechiæ as yesterday; P. 76, full and regular.—26th. Petechiæ as before.—27th. Petechiæ beginning to disappear.—28th. No appearance of petechiæ. On the 2d December he was sent to the convalescents' ward, and dismissed some time after. On the 17th December he returned to the hospital; relapsed four days; light coloured petechiæ, and few in number appear on his chest; these almost immediately after disappeared. His attack was very light, and on the 23d he was sent to the convalescents' ward. Fever was for a long time prevalent in this man's family.

WILLIAM POWER, AGED 30.—*March 1st, 1819.*

Ill five days. Nose dark red, and the end of it covered with pustular eruption; petechiæ on the neck; P. soft, frequent; eyes red; headach; feet of natural appearance; B. slow.—2d. Nose darker coloured to-day; purulent vesicles as yesterday; P. frequent; feet and hands warm; eyes reddish; B. open; slept badly.—3d. Vesicles diminished; feet warm; tolerable sleep; P. frequent, weak; B. slow.—4. Vesicles or pustules almost entirely disap-

peared; feet and hands warm; tolerable sleep; B. free.—5th. Slept well; B. free; looks better; P. 74; skin soft; Nose healing.—6th. P. 72; complains of weakness.—On the 8th he had his clothes, and on the 18th relapsed, when he had a smart attack of fever, his pulse rising to 120; T. foul; oppression; bad sleep, &c. On the 27th of the month was again sent to the convalescents' ward. When I first saw this man, I was alarmed at the appearance of his nose, which was of a dark red colour, as this symptom had been hitherto connected with fatal consequences. The petechiæ were few. The pustular eruption on his nose I cannot help regarding as having been a favourable indication. He used wine, linseed tea acidulated with sulphuric acid, and various nutritious articles.

MICHAEL MAHER, AGED 50.—*September 18th, 1819.*

Four days ill. T. foul, with a broad streak in the middle; eyes red; true petechiæ on trunk; P. 136, slight headach; general pains; says he has been ill, and relapsed; B. regular.—19th. P. 98, firm; has perspired freely; no headach; slept well. Convalescent.—20th. P. 92; sleeps badly.—21st. P. 78; pain of limbs. Removed to convalescents' ward. Dismissed on the 30th.—October 5th. Relapsed four days.—6th. Perspires freely; P. frequent; no sleep; no pain.—7th. Flushed; T. dry; slept badly; free perspiration; P. 96.—8th. Tolerable sleep; P. 84.—9th. P. 100.—10th. P. 92; tolerable sleep; B. free; T. quite clean; pain of limbs.—11th. Pains almost gone; P. 84; B. regular; appetite improves.—17th. Dismissed. This man's appearance, at first, led me to fear his would be a case of typhus gravior, as I had observed many such with similar beginnings. He was rather a

weak man. His wife miscarried in fever in the hospital, where three or four of his children also were, in one of whom the pulse rose to 172.

During the course of the epidemic, the face was very commonly flushed, and sometimes of a dark red colour. One or both cheeks were, in some cases, marked with a circumscribed patch of red, such as is observed in hectic fever. The heat was often very considerable and pungent; but it is not in my power to record the degrees of temperature by the thermometer. In cases of a bad description, the temperature was frequently much below the natural standard, and the extremities cold. The eyes were very commonly seen suffused, shining, and of various degrees of red, and sometimes with such an expression as if the aqueous humour was reddish, while the membranes appeared unaffected with vascular dilatation. The pupils were much enlarged, or the iris insensible, in some other cases, besides those that had a fatal termination.

Pain of the head was, of course, a very common symptom, and of all degrees; sometimes very unmanageable, but not very often excruciating. This symptom was not always present where the flushing of the face, and redness of one or both eyes, together with considerable arterial action, might appear to have rendered it almost of necessary consequence, and this when the patient could readily make known other complaints.

TABLE VI.

1817.—Pulse,	56	54	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	100	104	106	108
Males and Females																					
Nov. and Dec. -	...	...	1	...	1	1	2	4	2	...	2	1	1	4	3	2	3	9	4	2	5
1818.																					
July and August																					
Males and Females	...	1	1	3	14	1	7	...	1	1	11	2	3	16	11	2	23	39	36	1	38
Nov. and Dec.																					
Males -	...	...	...	1	14	4	12	1	21	...	9	...	...	16	1	4	16	30	14	2	8
1819.																					
March and April																					
Males -	1	1	...	1	3	...	2	...	4	...	...	1	...	9	12	2	5	12	13	4	6
Sept. and Oct.																					
Males and Females	...	...	...	...	2	...	2	2	5	...	2	3	2	4	5	1	3	10	7	4	4
Total -	1	2	2	5	34	6	25	7	49	1	1	7	6	49	32	11	50	100	74	13	61

1817.—Pulse,	110	112	114	116	118	120	122	124	126	128	130	132	134	136
Males and Females														
Nov. and Dec. -	7	9	3	12	3	39	...	15	3	7	7	18	3	10
1818.														
July and August														
Males and Females	4	35	2	35	1	79	2	52	6	29	4	27	3	18
Nov. and Dec.														
Males -	...	11	1	13	...	43	2	14	...	6	...	16	...	8
1819.														
March and April														
Males -	1	...	7	...	32	1	13	7	2	...	16	...	7	
Sept. and Oct.														
Males and Females	...	6	...	7	...	46	...	12	6	8	2	10	1	12
Total -	13	62	6	74	4	239	5	106	22	52	13	87	7	55

1817.—Pulse,	138	140	142	144	148	150	152	156	160	164	453	172
Males and Females												
Nov. and Dec.	1	15	1	3	2	...	1	1	...	...	...	...
1818.												
July and August												
Males and Females	2	30	...	14	2	...	4	1	2	...	...	...
Nov. and Dec.												
Males -	1	6	...	5	2	1	1	...	2	...	...	...
1819.												
March and April												
Males -	...	6	...	6	7	...	2	1	1	...	2	...
Sept. and Oct.												
Males and Females	...	14	...	5	2	...	4	1	2	1	...	1
Total -	4	71	1	33	15	1	12	4	7	1	2	1

Total of Males and Females in Nov. and Dec. 1817, 207.—Total of Males and Females in July and August 1818, 579.—Do. of Males in Nov. and Dec. 1818, 279.—Do. of Males in March and April 1819, 189.—Do. of Males and Females in Sept. and Oct. 1819, 196.—Grand Total, 1450.

TABLE VI.—Continued.

AGE.†	5	6	8	10	11	12	13	16	21	23	24	25	26	27	28	30	31	33	35	40	43	45	46	48	50	55	56	60	65	66	70
Frequency of Pulse, -	152	160	172	148 136	148 148	156	148	144	140 152	140	148 148 140 144	140 140 144	144	136	136 142	140 140	132	132	140	132 132 136 140 140 140 140 144	136	138 140	140	138 132	130 132	130	111 120 136	116 120 130 136 138 140	120	112	130 144

Instances in which the Pulse sunk.									
Frequency -	38	44	46	48	50	52	56	58	
Cases -	1	1	2	5	6	3	12	4	

† These cases all recovered.

The pulse was observed carefully, and noted by me in upwards of 1400 cases, of which a table is given. The years and months are distinguished, but there does not appear to be any remarkable change in the general frequency of the pulse in those different periods.* Many of the cases thus noted, were those of children of various ages, in whom the pulse might be supposed to rise very high.

In the fatal cases also the pulsation was of very great frequency, but some of them were not remarkable in this respect, as has been also observed by Dr. Cheyne, in his report of the Hardwicke Fever Hospital for 1817. In turning over the pages of the case books for the materials of this table, I observed and noted the age of the person, in whom the pulse appeared remarkable, when considered in this point of view, and the cases thus noted, were those which terminated in recovery, none of the fatal cases being marked. I have no doubt that a more diligent search would have added many more such cases to the number of this part of the table; but such as it is, it appears not altogether devoid of interest. Before the present epidemic, I never met with a case of any disease, in which the pulse of an adult rose above 160 strokes in one minute. I have also noted the number of instances in which

* In 1817, the pulse rose to 120, and upwards, in much more than one-half the entire number for this period, (which, however, consisted of winter months) the former being 126, the latter 207. The proportion in 1818 was much less, being 382 out of 858 cases. But in 1819, the cases in which the pulse rose to 120, and upwards, were 230 out of 385. Even when the fatal cases were very few, being 2 in 262 admitted, the pulse indicated very considerable febrile irritability as having existed during this period, (September and October 1819) out of 196 cases, in which the pulse was noted, 127 had a pulse amounting to, or exceeding 120 strokes in a minute. In fact there were many very severe cases of typhus gravior in the hospital during these two months.

the pulse sunk very low, principally in the stage of collapse, and after crisis: some of them were those of young persons. In the cases of a father and daughter,, the pulse was 46 and 56, respectively. I observed one case of the distinct regular *pulsus dicrotus*, or pulse with the double stroke. In June 1818, a man named Francis Bryan, aged 36, was admitted, ill four days, with the usual symptoms of fever; P. 120; for the three following days, P. 100; afterwards 84, 60, 44, and 44 or 40: his convalescence advanced apace. He relapsed in July, when the pulse was noted as moderate on the 5th day of his second attack; during the succeeding days, without omission, it ranged 50, 38, 38, 38, 42, 42, 42, 44, 44, 48, 52, 48, 48, 48. On the last night he had ten or twelve paroxysms of epilepsy, in which foam appeared on his mouth, and his tongue was wounded; after vomiting in the morning he fell asleep. He said he had a similar attack twelve months ago; P. 64 and full. In four days after he was sent to the convalescents' ward, the pulse having continued at about 60. During the course of this man's illness he slept well, and the symptoms of fever, which he certainly appeared to have, were moderate. He was allowed a little wine and some strong beer. The occurrence of the epileptic fits removes the obscurity in which this case would have been otherwise involved.

It is well known that the frequency of the pulse is only one point of view in which it is to be considered, and in such a multitude of cases, many other variations must have presented themselves; but it would be as difficult as it would be useless, to attempt to record them, however important they might have been at the time of their occurrence. A due observation of the pulse in fever, seems justly entitled to the attention of the physician. A full and impartial attention ought, no doubt, be given to all the symptoms, by which to regulate the treatment, and to

consult one, to the exclusion of the rest, would be as dangerous as it is absurd. But the state of the circulation of the blood, as indicated by arterial pulsation, appears to be as worthy of observation as any other symptom. In the most dangerous state of fever, I have often observed the patient to be not so liable to the agitations which commonly affect the pulse in a situation of less danger. After repeated trials, the pulse of the sick in fever seldom appeared changeable, or easily excited, by approaching their beds; on the contrary, the pulse of convalescents, anxiously expecting to be permitted to return home, was found to be frequently and remarkably subject to excitement, and this was particularly the case of children.

Bleeding from the nose, was not of ordinary occurrence, nor so frequent as one might have been led, from the urgency of other symptoms, to expect. The quantity of blood lost was, in general, very small. In 1817, one case in which it occurred, proved fatal; in another it was decidedly critical. A labouring man, aged 20, came into the hospital on the 8th day of fever. On the 10th he complained of great pain of his head, back, and the calves of his legs. On the 11th his nose bled to the amount of two ounces in the forenoon, and in the evening, of at least two pounds, his pulse being 108. Next day the pulse was 84; the skin was warm and moist, and there was no pain. On the 13th the pulse was 64; his tongue, which had been dark, dry, and foul, still continued so, and he slept well. He was dismissed quite well on the 18th day from the first attack. In 1818 I do not recollect that any similar case occurred. But in 1819, epistaxis appeared to have contributed very much to amendment in the following cases. On the 17th of April, a man, aged 45, came into the hospital, four days ill. The symptoms were thus noted: T. foul; B.

free; slight headach, increased by cough; P. 120; epistaxis. On the 18th his face was dark red; eyes red and swelled; oppression; headach, increased by cough; T. of a dirty yellow; B. slow.—19th. Epistaxis to the amount of 1lb.; T. dry; slept well; face not so swoln; B. free; P. 128; abdomen full; cheeks flushed; oppression; headach better.—20th. Face yellowish and flushed; T. foul; eyes reddish; slept well; B. free; no pain; skin of the trunk bright yellow; P. 76, soft. He continued to improve to the 26th, when he was removed to the convalescents' ward. On the second day after the occurrence of epistaxis, this patient was convalescent. He had been purged by different medicines; his head was shaved, and on the 18th was blistered, and fomentations, &c. used; but it is probable that blood-letting would have relieved him more than any other remedy.

On the 6th of October, a girl, aged 9, was admitted on the third day of her fever; P. frequent; B. slow; no pain.—7th. Eyes reddish; T. soft; no sleep; P. 144, hard; no headach; two stools; vomiting.—8th. P. 140; headach; eyes reddish; B. regular; slept well.—9th. A bad night; B. free; T. foul; P. 120; skin moist; vomiting continues.—10th. Epistaxis, to 12 oz.; T. soft; B. free; tolerable sleep; P. 92; no vomiting. Convalescent.—11th. Removed.—24th. Relapsed.—27. Removed. The remedies used were purgatives, fomentation, washing, and tincture of digitalis. Vomiting had occurred before the digitalis was made use of. It appears to have reduced the frequency of the pulse. The head was shaved and washed after headach was complained of, and some aromatic medicines directed for the continued nausea and vomiting. But although the symptoms appear to have been thus moderated, they were not subdued but by the bleeding from the nose, which was critical. This girl had been in fever on the 25th of August preceding; she was bled twice, but without re-

lief of her head; but the application of a blister seemed to afford relief. She relapsed, and epistaxis then occurred twice. From some inquiry I have made, I am inclined to think that, even after repeated blood-letting, relief has been obtained *only* by this spontaneous discharge of blood.

These are the only cases I recollect, in which crisis may be attributed to this evacuation; but I have no doubt that several others have occurred in the practice of the hospital. I have been induced to insert these, because, in his second report of the Hardwicke Fever Hospital, Dr. Cheyne remarks that he had not met with any case, in which epistaxis appeared to be decidedly critical.

Delirium was frequently met with, but very seldom arose to a state of ferocity. Comatose appearances were only now and then observed. Some patients remained in a state of stupor for two or three days, who afterwards recovered; but this symptom generally indicated much greater danger than delirium. *Subsultus tendinum* and tremors were very rarely seen but in the most dangerous cases. *Floccitation*, was still more rare.

Copious perspiration was often observed to afford no relief; and, in a few cases, the temperature seemed not to be reduced by it, the skin being sometimes quite hot, while, at the same time, the body was bathed in perspiration. Dr. Cheyne has made the same observation in the report last mentioned. But crisis was very commonly attended by this symptom, which was seldom promoted by any other means than fomentations and warm drink.

The circumstances of the fever hospital were, in gene-

ral, quite incompatible with such attention to the state of the urine, as would have enabled the medical attendant to form any judgment as to its critical depositions, or other qualities, for which reason I have nothing to state on this part of the subject.

A most offensive fetor from the person of the patients has been a common symptom during the epidemic; but I never observed it so frequently, considering the number in hospital, as in the months of September and October 1819, and this in cases that were not in much danger.

Tongue
The tongue exhibited all intermediate appearances, from white and moist to black and parched. In some few cases it was smooth, bright red and dry; and in yet fewer, principally of aged persons, it was covered with a thick coat of mucus of a bluish grey colour. In 1818, especially in the summer months, the tongue was frequently much more clean than the concomitant symptoms would give reason to expect. It was very often quite moist and clean at the edges, but the middle and back part were of a bright brown, as if the tongue of a healthy person had been thus smeared with paint. About this period (July 1818) there was an irritability of the stomach, which I think I never before observed so general in the hospital, the patients very frequently rejecting the purgative medicines which were in ordinary use, and pain of the abdomen, and more particularly of the epigastric region, was very commonly complained of. I was the more attentive to these symptoms, because it was then that dysentery began to shew itself in this city, and was detected in the fever hospital, and at that time, there did appear to me to be a very general tendency to this disorder.

The state of the alimentary canal was, in general, torpid, requiring the free use of active purgative medicines, but was, very commonly, easily regulated by them. Of the appearance of the feces nothing can be particularly reported, as the instant removal of these is strictly enjoined, and generally well observed in the hospital. Debility and languor have been of the most ordinary occurrence, not usually, however, in the commencement, amounting to great prostration of strength. But, in the progress of fever, the most distressing and alarming symptoms derived from this source were frequently witnessed, such as total inability to move in the bed, or to lie on either side, together with the involuntary discharge of the feces and urine. Indeed, when the condition and state of exhaustion, from want of food, of so many of the poor, are considered, it is surprising that such symptoms were not of much more frequent occurrence. Under this head may be also classed the pains of the limbs, so commonly complained of, the hands, arms and shoulders being, almost as much as the legs, noted as the places in which such pains were felt, and in many instances these continued for several days after convalescence.

Glandular inflammation and suppuration rarely occurred in the hospital. In 1817, a remarkable case of it fell under my care. On the 11th December, a labourer from the country, aged 48 years, was admitted, on the fifth day of his fever.—6th. Pulse 132, and very feeble; T. clean; B. free; great headach; eyes suffused; no flushing; no delirium; general pains; skin spotted. *Head to be shaved and washed with vinegar, and legs to be fomented; allowed beer and apples.*—7th. P. 132; slept well; T. tolerably clean; three stools; diffused spots all over the body; no headach; *four ounces of wine, in addition to what was ordered yesterday.*—8th. P. 128, feeble; slept

well; two stools; T. very dry; spots as before; no pain, except of limbs.—9th. P. 132; B. confined; spots beginning to fade; T. moist; enlargement and pain of the left parotid gland.—10th. P. 124; Parotid gland much enlarged, and very painful.—11th. Both parotid glands very much swelled.—15th. A large quantity (about 4oz.) of thin fetid pus has been discharged from each ear; P. 100.—16th. P. 92; discharge continues from the ears; the tumors are somewhat softer.—17th. The tumors are abated.—18th. The tumor on the right side has burst near the angle of the jaw; P. 88.—19th. The tumor on the left side was opened by incision. This patient's recovery was slow; after the usual remedies for the febrile symptoms, he was liberally supported with wine, punch, warm beer, &c. He used for some time, small quantities of antimonial powder, scammony and calomel, by which a slight salivation was effected.

No similar case occurred to me until the 11th of September 1819, when a boy aged 15 years, was admitted, on the third day of fever; headach; P. 120.—12th. P. 120; slept well.—13th. P. 124.—14th. P. 130.—15th. P. 144, feeble; trunk spotted; oppression; belly painful to the touch.—16th. P. irregular, and so feeble as not to be counted; belly full and painful. *Wine 8oz.*—17. P. 156, feeble and irregular; marbled spots; no delirium. *Wine 10oz. weak punch 8oz.* In the evening, P. 160, firm.—18th. Says he is better; P. 144, weak, but regular; belly still painful.—19th. P. 144; T. foul.—20th. P. 120.—21st. P. 120; he is very dull.—23d. P. 112.—24th. P. 120; left parotid gland is much swelled and hard. *Calomel and antim. powder twice daily.*—25th. P. 120.—26th. Mouth sore; P. 80. *Powders omitted.*—28th. Fluctuation in tumor.—29th. Tumor opened.—30th. Discharge of pus. continues, altogether about 8oz. Dis-

missed quite well.—12th Oct. It is obvious that the symptoms are not all here mentioned, nor the treatment, which was of the ordinary kind.

Pustular eruptions have appeared in many cases about the mouth and other parts of the face. I am fully persuaded of the general correctness of the common opinion that their appearance is salutary, and contributes to a favourable prognosis.

Erysipelas was not often observed in the hospital during the epidemic, but in March, April and May 1819, four cases of it occurred, in three of which this disorder supervened on fever of the worst description; one of them ultimately proved fatal, not from fever or erysipelas, but from profuse and repeated hæmorrhage from the bowels.

Erysipelas

Three or four cases of small pox were admitted into the hospital before the eruption took place. The disease was distinct and favourable in these cases, three of which were under my own care. Two of the persons affected with it, had previously suffered very much from fatigue and want of food. One of them was a negro from the West Indies.

Small pox

Scarlatina was epidemic in this city and its vicinity in the spring of 1819. A few cases, with some appearances of this disorder, were seen in the hospital about that period: but in October of the same year, two boys were sent to the house in fever, which soon proved to have been symptomatic of this disease. In one of these there was a distinct miliary eruption, together with the erythema of the scarlatina. Both of these boys came from a public establishment. And here it may be observed,

Scarlatina

that all fever cases found in the Jails, House of Industry, or Leper Hospital, were sent to the Fever Hospital. In 1818, a great many such were received from the House of Industry and the City Jail.

I do not recollect to have seen or heard of a single case of measles in the hospital during the epidemic.

Many instances of abortion have occurred in the hospital. The danger of the fever patient seemed to be always greatly increased by this accident. Some cases were eventually fatal. In July and August abortion took place in several cases, none of which terminated fatally; and in the same period many pregnant women, near the time of parturition, were in the hospital, in whom the symptoms of fever attained considerable height, without producing abortion: the situation of these women was truly distressing.

The Dysentery was epidemic in this part of the country in the autumn of 1818. But as the subject requires more than the mere mention, it shall be again recurred to in a subsequent part of this report.

In December 1817, a woman in mania was admitted into the hospital. She was soon after taken back to the country whence she came, as her husband would not agree to have her sent to the lunatic department in the House of Industry. Hydrocephalus in its acute form was frequently found in the hospital; most of the cases died there; but a few were removed by their friends. In two or three cases, which recovered, some of the pathognomonic symptoms of this disease were well marked; but the assemblage of all the symptoms was not present.

A case of symptomatic tetanus occurred in June 1819. A boy, about 14 years of age, was admitted on the 13th June with slight feverish symptoms, which soon assumed a different character; the disease proceeded from a wound by a splinter of wood under the nail of one of the great toes. He was dismissed *cured* on the 15th of the following month. Dr. Hearn, under whose care he was, has a statement of this case ready for the press.

In attempting to recount the symptoms of fever during the present epidemic, I must say, that I have endeavoured to dismiss from my mind, all preconceived opinions and associations of ideas. To combine, and compare the appearances of disease, and thence to generalize, forms indubitably an important part of the business of a physician; but in an hospital report, the more appropriate part of the writer is, to record the symptoms, as they may have occurred to him. The materials of such reports may eventually be of importance, especially if they coincide with similar documents of the same period, as they must then rank as facts, from which legitimate inferences may be drawn.

Respecting the treatment of fever, it is not my intention, nor is it in my power to suggest any thing new; but briefly to state the advantage obtained from certain well known remedies, as confirmed by the experience of this institution. I would not, however, be understood to attempt to record the practice in this hospital, except where I had myself witnessed it; nor do I wish that my colleagues should be answerable for any deficiency or inaccuracy in my statements, nor reprehensible for my prejudices. I also wish it to be plainly understood, that not the slightest censure is intended to be passed on any persons who may have adopted a different method of

cure, or a different opinion on the subject. Every man ought to judge for himself in such matters; and it argues as much illiberality, as it does ignorance and presumption, for any one to censure for difference of practice others equally capable with himself of forming a sound opinion. The indulgence, which is freely offered to others, I must claim with confidence for myself. *Hanc veniam petimusque damusque.*

It may excite the contempt of some, or call forth the indignation of others, to acknowledge, that cleanliness, in its various branches, ventilation, and the free and regular use of diluents, constitute, in ordinary cases, the principal part of the treatment in this hospital. It may with truth be asserted, that by far the greater number of patients restored to health by the means of this institution, are recovered by the application of these simple but efficacious remedies; and the assertion is borne out by the experience of all similar establishments.

Mankind are much indebted to those intelligent and upright men who have laboured to inculcate these pure doctrines by which such a beneficial change has been effected in the ordinary management of Fever. Very few but the ignorant, or the interested, are now found to resist the united force of reason and experience, both of which powerfully plead the cause of this improvement. These sentiments are not now advanced in order to meet with the approbation of competent judges; for every one who knows any thing of this institution knows that its practice has always conformed to the most approved regulations on this subject. However, when superficial observers may censure the want of activity of practice in those who put forth no pretensions; no small gratification is derived from such opinions as the following, respectable on account of their authority, but admirable for their

good feeling and good sense. A writer in the Edinburgh Review, speaking on the subject of cleanliness, change of linen, &c. thus expresses himself: "Without these the best medical treatment will be nugatory; and the professional attendant who does not make them the primary objects of his attention, degrades himself from a philanthropic physician to a mere mixer of drugs." No. 62, p. 428.

"Mankind are too much disposed to seek for wonders when their feelings are roused, and neglect the safe and simple resources that nature and reason point out. We require the admonition that Naaman received from his servants, 'If the prophet had bid thee do some great thing, wouldst thou not have done it? how much more when he saith unto thee, wash and be clean?'"*

According to one of the regulations of the hospital, every patient has his hair closely cut at the time of his admission; he is also well washed with warm water and soap, and supplied with linen before he enters the sick ward. Afterwards the face, hands, arms, and trunk of the body, if necessary, are washed once a day, or oftener, with soap and water, or vinegar and water, cold or warm, as the physician may direct.

In the *remedial* treatment of fever, it is not perhaps easy to adjust the claims of different remedies to precedence in rank. But if those which are most generally, if not universally, applicable and useful, deserve the most distinguished place, none are so justly entitled to it as purgative medicines. Very few fever cases appear in this hospital that do not, in the commencement, or in the early stages, require evacuation.

* Observations on Contagion by Whitley Stokes. M. D. p. 28.

The operation of these evacuants, in innumerable examples, has removed or relieved pains of the head and belly, and very often of the limbs; which last, however, generally remain a much longer time than the first. Disordered functions are commonly restored by the same means, and the excessive heat of the surface of the body diminished. In short, restoration to convalescence can be frequently attributed to this cause alone. A case of constipation is rarely, if ever seen in the hospital, on account of the free use of purgatives in the beginning of fever; for almost 19 out of 20 cases require the prescription of these medicines, at this period of the disease; and very frequently it is necessary, by their means, to procure three or four daily alvine evacuations during the whole course of fever. The compound powder of jalap, calomel, and castor oil, are the medicines of this class in most general use in the hospital. Injections are also in daily use, and found to be eminently beneficial.

m Foment. Fomentations of the legs and feet have been of essential service in relieving headach, general restlessness and febrile anxiety; pains of the limbs have been greatly diminished by this remedy, which also has frequently induced sleep, even after much previous watchfulness.

to the Shaving of the head, and cold applications, occasionally or constantly, have been in ordinary use in the hospital, and appear to have merited all that has, from time to time, been expressed in their favour. When violent headach and disordered functions are not relieved by these means, blisters to the occiput and back of the neck, or between the shoulders, are often resorted to, and very commonly with the happiest effect; sleep, which was be-

fore banished, being frequently restored to the patient by their means.

It was necessary, sometimes, to have recourse to opiates for some of these purposes, and not always without success. Hyoscyamus has been also in many instances, found useful as an anodyne, but by no means certain in its effects. It is well known, however, that it may be tried with perfect safety, and to a considerable extent of dose, in cases where the use of opium would not be admissible.

On the subject of blood-letting in fever, much difference of opinion has existed among the members of the medical profession. The object of a report of a fever hospital, is to detail the practice employed there, with the general result, or to record cases illustrative of the good or the bad effects of any remedy; but it does not allow of entering fully into an essay or dissertation on any such subject.

In 1817, it so happened that I did not think it necessary to employ this remedy by any mode, in any case under my care; although in previous years I had recourse to it, as I deemed it prudent. The most urgent symptoms of fever during the course of an epidemic will vary, and require various modes of treatment.

In 1818, I had occasion to prescribe the use of the lancet in several instances, I cannot now say how many, but they were cases of inflammatory affection combined with fever. In the present year, I have employed general blood-letting in about 40 patients, by far the greater number of whom appeared either to labour under local

inflammatory affection or to be seriously threatened with it. The effects of the remedy, as they appeared to me, were most usually, highly beneficial; but in some cases the expected benefit was not derived from it. In simple fever, when no part is particularly affected, it appears to be a superfluous and unnecessary remedy; the usual modes of treatment being found adequate to its relief. Of fifteen persons who were bled under my care in September and October 1819, I find that six were completely or very much relieved, three were moderately relieved; in four the relief was partial, temporary or uncertain, and two were not in any degree relieved. I furthermore perceive that five of them had very slow recoveries, four of whom were partly or moderately relieved, the fifth seemed to have derived no relief whatever from blood-letting.

All those persons were affected with continued idiopathic fever. The blood was covered with the buffy coat in four out of the six cases who were completely relieved; in the two other cases the coagulum was not contracted, no separation of serum having taken place.

I am aware, that any deduction made from so small a number of cases; is not much to be relied on, and I must also acknowledge that some of my colleagues, who have more freely used this remedy, are impressed with a higher opinion of its general efficacy. But I can only speak here of what I know from my own experience. I am well satisfied that blood-letting may be very generally made use of in fever, where no part seems to labour, and with no detriment; but to do no injury is one thing, and to relieve, is another. It is however no small recommendation of a remedy, that it is not likely to do mischief; and it is an advantage of no trifling moment, to be satisfied

that blood-letting may be resorted to in doubtful cases, without the apprehension of terrific consequences. In this point of view, at the least, the medical profession and the public are indebted to those writers, who have contributed to dispel our fears on this subject. Were I to make any farther avowal concerning it, I would say that Dr. Armstrong's sentiments respecting the kind of fever and the stage of it in which blood-letting should be resorted to, meet with my entire acquiescence.

During the course of this epidemic, I do not know that topical bleeding has been used in the hospital except in, perhaps, a very few cases. The scarificator and cupping glass were once in frequent use, but the urgency of business in the hospital, and the greater efficacy of general bleeding, have of late discouraged from their use.

The tincture of digitalis has been found of considerable utility in reducing the impetus of the circulation, and this not only when local affection was apparent, but also in cases which appeared free from such indications. The symptoms which proceed from increased rapidity and strength of the circulation of the blood, have again and again been relieved by this medicine.

The affusion with cold or with tepid water was frequently made use of in 1817, and often with advantage to the patient. I have repeatedly observed sound sleep to follow the application of this remedy; relaxation and moisture of the skin were also the consequences of it in several instances; which effects are sufficient to stamp it with the character of sterling value. In some cases it appeared that no alleviation of distressing symptoms was derived from its use; but this is, unfortunately, too often the case with remedies of the most unquestioned efficacy:

The great number of patients in the hospital, and the consequent pressure on all its departments, in 1818 and 1819, have contributed to its disuse; but its place is well supplied by the frequent spongings and washings, now so commonly used in all fever hospitals.

The treatment of fever, by *mercurializing* the system, has not been pursued in this hospital. In some few cases, it is true, salivation has been produced, but they were of such a character as not to warrant an opinion on this method of cure.

Emetics, which are useful at the very commencement of fever, can seldom be administered in the practice of hospitals, where patients come in too late for their exhibition. Antimonial medicines were, for a long time, regarded as febrifuge and specific; but the apprehension of their causing increased heat and excitement, if they should not succeed in relaxing the skin, has led, perhaps deservedly, to their disuse. They have been employed in combination with other medicines in this hospital; especially when the existence of some other disease besides fever was suspected.

Wine has been of the greatest utility in the practice of this hospital; but perhaps not one-tenth of the patients required it. The expense of this article has been a very heavy item in the house accounts; and it is desirable that in prescribing, economy should be kept in view; but nothing appears worthy of being substituted for this generous cordial, in the treatment of low and malignant fevers, especially in their last stage.

I have been frequently obliged to recur to the use of wine, after having in vain attempted to supply its place

with punch; for neither the desire of the patient, nor the effects of the substitute, would permit a longer discontinuance of this grateful cordial. It has however happened repeatedly, that the same person who so anxiously called for wine in the time of danger, after convalescence loathed it, and requested some other beverage. In the worst cases, a large quantity of wine has been prescribed in the hospital, but it has, in very few instances, amounted to 24 ounces daily. It appears to me, that in private practice, much larger quantities are ordered. I recollect one case under my own care, in which a bottle of Madeira, and another of Port, were used daily for almost a week, and the patient not 18 years of age. In fact, wine is the sheet anchor of hope in very many cases, such as have occurred in this epidemic.

Besides the ordinary articles of diet, table beer, strong beer, tea and fruit, are allowed the patients, when prescribed by the physicians.

In many cases where nervous irritability prevails, as in pregnant women suffering in fever, the wishes of the patient should be complied with, as much as a due regard to economy and example will permit. Such patients are not in general the inmates of fever hospitals, but may sometimes be seen in them, exhibiting those nervous symptoms that are the most distressing, unmanageable, and dangerous in fever patients of a higher rank. Servants of respectable families are very often in this predicament, and claim the sympathizing attention of the physician. In all cases a speedy restoration to health is of much more consequence than the saving of a little additional expense.

I am aware that I have been tedious, and perhaps prolix, on these trite subjects; it is only the desire of avoid-

ing obscurity, from injudicious brevity, that has induced me to say so much. I am also aware that, in general, only common remarks may be perceived in what I have ventured to express; but in such statements as this, it is difficult to produce, and perhaps unreasonable to expect, what belongs more peculiarly to the nature of an essay. In reports of hospitals, what is true should be regarded more than what is ingenious.

When the conflicting symptoms, and opposite modes of treatment in fever are considered, together with the difficulty, almost amounting to impracticability, of ascertaining the comparative merits of each, by returns of successful practice, the monitory prudence of the following extract from the work, already quoted, may justly claim our attention:—"That the same end should be attained by means diametrically opposite, is a paradox in medical science, that should teach physicians to mingle humility with the just pretensions of their art."*

The injurious consequences of fever, in many instances, were anasarcaous swellings of the limbs. I have not witnessed, nor heard of any case of dropsy in the large cavities having occurred in consequence of the epidemic. In a few cases, great debility, and loss of the use of the limbs, continued for a long time, apparently the effects of fever, but were not permanent. A woman, who was a servant in the house fitted up for the reception of convalescents from fever, contracted the disease there; her recovery was tedious, and she lost the use of speech, which was not restored until a considerable time had elapsed. *Marasmus* or *atrophy* occurred in a great many cases, especially of the aged, and of young children, some of whom died at their own homes, after dismissal from the hospital, in a state of apparent convalescence.

* See Review, No. 62, p. 429.

About the month of July 1818, dysentery began to make its appearance in this city, and at the same time was detected in the fever hospital. Most of the dysenteric patients appeared to be affected with fever at the time of their admission, but the symptoms of fever generally declined in a few days, leaving the patient subject to dysentery only. Some persons were attacked with the symptoms of the latter disease during the period of convalescence from fever. All the dysenterics were confined, as far as was practicable, in separate wards, and every precaution in our power used to prevent the spreading of a disease, whose combination with fever has been found exceedingly fatal. In one case of dysentery I distinctly recollect that, after its symptoms were subdued, those of fever returned, which, however, were mild, and continued but a very short time.

The accession of this disease was generally indicated by loss of appetite for food, and sickness and pain of the stomach; but, in some cases, the painful and unavailing efforts to expel the feces came upon the patient without any previous derangement of the functions of the stomach. The tenesmus was frequently very obstinate for many days, attended with tormina the most excruciating, compared by many patients to the effects of red hot iron passed into the intestines.

Pain of the abdomen, arising from pressure, was very general, especially at the lower parts, near the region of the bladder, and considerable pain was often felt in passing water. But although these pains were severe, they did not amount, in any case witnessed by the writer, to that acute pain arising from the slightest touch, observed in cases of *enteritis* or *peritonitis*. Neither was decided tension of the belly a symptom that came under his observation. The pain in the lower part of the rectum appeared to

remain longer than that of any other part, and was very distressing to most persons affected with this disease, but was absolutely tormenting to such of them as had been subject to hæmorrhoids. Many patients made attempts at evacuation so frequently as from 12 to 20 times in an hour; but some of the sufferers passed much of their time in such situations as would allow them to make these efforts almost without intermission. These, however, were the most acute cases; in a great many others the symptoms were comparatively mild. The evacuations, if they could be called such, at first generally consisted of a very small quantity of mucus, tinged or mixed with blood, but the latter was, in some cases, unmixed and copious, in these the patient, in general, experienced earlier relief. I think that, in the majority of the cases which fell under my observation, the symptoms indicating fever were absent. The tongue in these persons was clean and moist; no derangement of intellect was observable, and sleep was only prevented by the pain attending the state of the bowels. But, in not a few instances, there was considerable fever indicated by a foul tongue, aversion to food, heat of the surface of the body, watchfulness, anxiety, low delirium, and such like symptoms. In a few cases of both description, spasmodic pains were felt, especially in the calves of the legs, in which, as in some other symptoms, there appeared an affinity between this disease and *cholera*, but I believe cases of the latter were very rare during the prevalence of the former. The fatal termination was usually preceded by exhaustion, extreme debility, coldness of the extremities, and, in some cases, by colliquative diarrhœa. The writer had no opportunity of inspecting the state of the intestines after death; but neither suppuration nor mortification appeared to be indicated by the symptoms in any of the fatal cases which he witnessed.

The symptoms of the dysentery here noted, were observed not in the fever hospital only, but also in the course of private practice, which afforded to the medical practitioners of this city opportunities more extensive than even in the hospital of observing this disease.

The treatment of dysentery, pursued in the hospital, was that which is now generally acknowledged to be the most efficacious. At first purgative medicines were used of such kinds as suited the views of the attending physicians; when these had had their effect, anodynes were occasionally interposed, and afterwards a conjunction of these two with aromatics and astringents, with the free use of various light and nutritious diluents. It was absolutely necessary to allow many patients a large portion of wine, especially in the last stage of the disorder. Fomentations of the affected parts were very frequently made use of, and found to be of advantage, and comfortable to the patient. After repeated trials of ipecacuan, mercurial pill, castor oil, solutions of various salts, combined with purgative tinctures, I found none of them so generally efficacious as small doses of the compound powder of jalap, with calomel and powdered ginger, in producing feculent discharges. The compound powder of ipecacuan was a convenient anodyne for hospital practice, and appeared to be useful in a great many cases.

It is impossible to state with precision the amount of mortality arising from dysentery whilst it was epidemic; it is not extravagant, however, to estimate it at about 300 in this city. The writer having made inquiry on the subject from a respectable Roman Catholic clergyman, was informed that, in one parish alone, 26 persons had died of dysentery in the course of a week. The aged, and all persons enfeebled by previous disease, were most

subject to the dangerous attacks of this distressing disorder, and fell victims to it in great numbers. Many very young children also were, as might be expected, carried off; the state of poverty and general distress rendering the situation of all these persons doubly distressing and dangerous. But persons of the upper ranks also were attacked in considerable numbers, and not a few of them, particularly such as were subject to diseases of the abdominal viscera, sunk under the attack; some after a long and protracted struggle. In two large wards, which were furnished with beds and other accommodations, for the most destitute labouring under this disease, by direction of the Committee appointed to manage a fund raised for the relief of such persons, it appears, by a return which I procured from the steward of the Leper Hospital, that 54 persons were received into those wards from the 10th of September 1818, to the 28th of January 1819, and that of these 14 died. This mortality is, no doubt, very great; but it must be remembered that these cases were, in general, of a very bad description, and such as had suffered from much previous neglect. It may be also remarked that those beds would have accommodated a much greater number of patients in succession, but for the tedious nature of the disease.

Whether simple dysentery be a contagious disease, is a question upon which medical persons differ in opinion. The disease has extensively prevailed in this quarter, but I am not aware that sufficient observation has been made respecting it, to enable me to give a decided opinion as to the nature of its origin, and the mode of its extension. I am myself inclined to the opinion that it is not contagious. When I say I am inclined, I would not be understood to mean that I am biassed one way or the other in opinion; but I think that the result of what I have observed, not of what I have read, inclines me more to

the opinion just stated. Most of the persons in this disorder, who came under my observation, certainly did not exhibit symptoms of fever, as these are generally understood. Many persons were first attacked after having eaten of food that disagreed with them. Some attributed the origin of the disease to having eaten too freely of sprats, which were caught and sold in great abundance in this neighbourhood; others again complained of mushrooms as the offending cause. I know that any such testimony is of too equivocal a nature to be at all decisive of the question, even although the number of witnesses were much greater than it really was; but yet I cannot help thinking that such were, in some instances, the exciting causes of the disease, to which there was a general tendency, induced by the unusual heat and drought of the season. The very poor inhabitants of this city were in the habit of boiling large quantities of sprats, and eating them with broth, without any other addition.*

It must be observed, however, that the opinion that dysentery is contagious, is almost universally prevalent; and, in some instances, it would seem that the disease had been contracted by sleeping in the same bed with a dysenteric person. It is possible that dysentery may be infectious in some such way as syphilis, scabies and vaccina are known to be, although not contagious in the same sense as typhus, scarlatina and variola, with some other diseases, which are understood to be propagated by contagion.

* I believe it is well known fact that, on the western coasts of Ireland, where fish is in great use as an article of food, strangers are liable to suffer severely from the dysentery. The Waterford Militia, when first raised, was quartered in the county of Galway, where great numbers died of this disorder.

The accession of cold weather, in the winter months, speedily checked, and finally subdued the dysentery as an epidemic, only a few cases being afterwards seen, which may be regarded as sporadic. The name by which this disease was generally known among the poor inhabitants, was *the disorder*, while fever was, by the same persons, called *the sickness*.

It remains that something should be said on the subject of contagion, not that any documents are now wanting to establish the doctrine of the fever of Ireland being thus propagated, but because it seems fit that every fever hospital should furnish all such information as is connected with the subject of fever. It seems truly surprising that any medical inquirer can, for a moment, hesitate in opinion on this part of the subject. As to the cause of the yellow fever of America and the West Indies, and of the bilious remittent and intermittent fevers of the same countries, one may be satisfied by the perusal of Doctor Bancroft's Essay on the Yellow Fever, that it is not a peculiar matter, generated in the human body, during sickness in these diseases, but something analogous to, if not actually the same in kind, as what has been called the marsh miasma, which, in the temperate climates wherein we dwell, produces agues or intermittent fevers. But the most minute inquiries on the subject of the propagation of typhous fever, carried on for many years, confirm the commonly received opinion, that it takes place by means of a specific matter, conveyed either immediately from an infected to an uninfected person, or by the means of substances, which are called the fomites of contagion.

I will not pretend to assert, that all the cases of fever which we have witnessed during the epidemic of these late years, or which have been introduced into the fever

hospital in this city, were produced by contagion; but I am firmly persuaded that a vast majority of them were. If it be admitted that fever was thus produced in any families, it will appear on investigation that, whilst some members were severely and malignantly attacked by this disease, others were mildly and not dangerously affected; so that no line of distinction can be drawn from the symptoms between fever from contagion and that which is supposed to be derived from other sources. It is impossible to trace every case of fever to its origin; it is not necessary to do so in order to establish the doctrine of propagation by contagion; and those who are acquainted with the rules of reasoning on such subjects, do not demand demonstration in all cases. The register of this institution can supply examples, almost without number, of families being attacked, all their members successively, or two or three together, by the symptoms of fever; and when inquiry has been directed to the subject, we have frequently learned that communication with such families has given rise to the disease in other persons. It is true that the opinion of the lower orders of the people is on the side of the contagious nature of fever, but until this opinion is proved to be unfounded, it should be regarded rather as adding to the probability of its truth, than taken as a ground for rejecting every statement of a fact, which may tend to its confirmation. I have now before me a list of about 30 families, taken from a cursory view of the hospital register; of which 3, 4, 5, or 6 members were at once admitted; a little more patient search would have discovered many more such families, and also the subsequent admission of more of their members. Several of these came from the country, where fever is not so likely to spread as in the confined lanes and alleys of a town, in which the concurrent causes of the disease, that are too apt to be regarded as the sole or efficient causes, abound. The late inspection of this

city by the District Committees of the *Convalescents' Fund Institution*, enabled the members of them, particularly the medical ones, to observe the circumstances and the consequences of the contagious propagation of fever. There does not exist any difference of opinion among them on this subject; and every medical gentleman who was connected with that Institution could, if required, furnish satisfactory information in this respect. Having been one of the Medical Inspectors myself, I am enabled to state, that in 10 lanes or alleys, consisting of a very few houses, I found cases of fever, in which are included relapses, in the following numbers, 9, 10, 10, 11, 14, 15, 17, 17, 19, 24; of these 10 were from one house, and 17 from two rooms in another house. In another instance, 9 out of 10 were of the same name and family. I know that some lanes and alleys in some of the other districts were infected, in perhaps a greater degree, as it is probable that more than 100 persons have been sent from one lane, consisting certainly of many houses. The numbers I have just stated are the most remarkable that occurred to me; and it must be kept in mind, that it was in the course of six months, and not in the whole past course of the epidemic, that these cases were noted. Fever prevailed to a great extent on the northern bank of the river opposite to the town; many very severe and several fatal cases of which were sent into the hospital. I happened, on more than one occasion, to witness the extreme poverty and truly miserable condition of some families residing there; but the district was allotted to another medical attendant.

Those who acted in that Committee had also an opportunity of observing the good effects of the speedy removal of infected persons to the fever hospital; and of the diligent and unremitting attention paid to cleansing, whitewashing, and ventilating their apartments. Medi-

cal men hardly expect, and meet with very little credit for the risques they run in the practice of their profession, even among the poor; but the courage displayed by many other gentlemen of that Committee, in the cause of humanity, is deserving of the highest praise. Never, I believe, were the arduous duties, voluntarily undertaken, more constantly and effectually fulfilled than by the greater part of the members of the Committee for managing the Fund for Poor Convalescents and their families; the proceedings of which may be seen in vol. 2, p. 347.

Many instances occurred of the injurious consequences of want of free circulation of the air in crowded apartments; one example appeared very striking; a nailer with a large family, had his forge fitted up in the room in which his family used to eat their meals; they slept in the apartment over it, and there was no flue or chimney for letting the heated and deteriorated air escape; it was uncomfortable or difficult to breathe in such a situation, and his children were continually in fever, relapsing again and again. I expostulated with him on the subject, and pointed out the bad effects of such an abode; he removed to another dwelling, and since that time not one of his family has been sent to the hospital, which, for a long period before, was seldom without two or three of his children. It is to be also remarked that this family, in their habits and circumstances, appeared to be superior to the persons who usually suffered from the epidemic.

The occurrences within the hospital also, unfortunately, afforded the strongest proofs of the existence of contagion. In 1817, the housekeeper of the hospital contracted fever; she had but lately before entered on the duties of her situation. None of the nurses or servants suffered from fever during this period; three of them, indeed, complained of slight feverish symp-

toms in the latter end of the year, but they recovered in the course of a very few days. But in the following year (1818) matters were widely different. The fever had increased and was increasing; and the duties of the attendants, from the overflow of patients, were most arduous and severe. There were 27 attacks and relapses of fever among the nurses, servants, and porters, whose number fluctuated according to the demand for them, but who, on an average, may have been about 22 during the year. Some of the nurses suffered relapse twice or thrice, and had very dangerous and distressing forms of fever, which, in one of these cases, terminated fatally. The house porter, who was employed in shaving the heads of the sick, and the beards of the convalescents, had two attacks of fever; and the servants who were not in attendance on the patients suffered five attacks. The present year 1819, bears a close resemblance to the last, in respect to the nurses and servants being attacked with fever, eighteen of the former having suffered under the disease; seven of them once, three twice, and one three times; one nurse died in the first attack. One servant had fever; and the two resident porters were also attacked with the disease, one of them having had two attacks in the year before. But the most remarkable, perhaps, of the occurrences of this nature is, that the apothecary, who had not been long in the hospital, caught fever, and suffered relapse twice. During his illness a young man, who performed part of his duties, was attacked after a short attendance. A temporary apothecary was then engaged for a few weeks, but he had not been many days in his new employment when he also contracted a fever,*

* I am much inclined to think that it was in attending to the operation of blood-letting that these gentlemen all contracted this disease; respecting the two last I have no doubt. If this be the case, or whether or not, the latent period in both instances was very short, not exceeding a very few

from which he has not yet recovered (3d November).

The epidemic has not attacked many persons of the upper and middle ranks. Very few indeed of this description, when compared with the great number of fever patients of the lower class of society, were affected with fever. But if they were attacked in fewer numbers, they experienced the fatal effects of the disease in, incomparably greater numbers, in proportion, than the poor inhabitants of the city and neighbourhood; and this striking difference in the event of fever, which at all times was very remarkable, became still more so in the later periods of the epidemic; in this respect agreeing, I believe, with what has been observed in Cork and other places. It would be difficult to adjust the rates of mortality in the upper classes, but it seems probable that one-fourth, or perhaps one-third of all those persons who were attacked with fever, fell victims to its power. The great exemption which persons of this description enjoy from the attacks of fever, when epidemic, has frequently, and with much reason, been alleged as an argument in favour of the good effects of cleanliness and order. It also strikingly confirms what has been so much insisted upon by every writer on the subject, that the poverty of the inhabitants of this country, their want of employment, their improvident and uncleanly habits, with the baneful consequences thence arising, are the principal concurring and exciting causes of the fever.

days. I have been informed, on the best authority, that the late apothecary of the *Kilkenny Fever Hospital* contracted the fever, which proved fatal to him, whilst he was performing the operation of venesection in the hospital. It is, I believe certain, that he attributed his sickness to some of the circumstances connected with the blood-letting.

The name of this city will always be associated with that of epidemic fever in Ireland; not so much on account of the full share which it has fallen to her lot to sustain in the calamity of the nation, but on account of her early efforts to relieve the poor afflicted with this disease, and the unabated energy with which her citizens have supported her former claims to the regard of the philanthropist. To her representative in Parliament, and one of her most eminent citizens, Sir John Newport, the country at large is indebted for humane, unremitting and successful exertions, both public and private, for the suppression of fever.

In concluding this Report of the Waterford Fever Hospital, it would be an unjust omission not to mention the unceasing attention bestowed on it by the successive Managing Committees of the Institution. It is to them, principally, that the exemplary good order which now prevails there is due; and the subscribers and supporters of this establishment are to them indebted for the distinguished character which it bears, and that neatness and regularity of system which receive the unqualified approbation of all who visit and inspect it.

* * * Being desirous of ascertaining the mortality caused by fever and dysentery during the year 1818, in Stephen's-street, where I reside, and which, on account of the great number of poor people living in it, may be considered as affording an average of the condition of the population of the whole city, I took a census of the inhabitants on the 4th January 1819, together with an

account of the fatalities during the preceding year. I think the statement is tolerably correct.

1818.	Uninhabited Houses.	Inhabited Houses.	Families	Individuals.	Deaths from			Total.
					Dysentery	Fever.	Other diseases.	
	5	44	92	496	9	7	8	24

It appears, that the families are more than double the number of inhabited houses, but less than double of the inhabited and uninhabited together.

The individuals are $5\frac{2}{3}$ (or nearly $5\frac{1}{2}$) to each family. If we suppose the population of this city to be 40,000, the usual estimate, and take the mortality in this street as the average of that throughout the city, the deaths would amount to 1920, and according to the proportion in the table, 720 from dysentery, 560 from fever, and 640 from all other diseases; which, I think, are far beyond the facts of the case; and the total mortality would amount to about 1 in 21.

Now 1 in 36 is the ordinary average of mortality; and 1 in 22 or 23 in epidemic years, according to what Malthus has collected and stated on this subject. Dr. Price was of opinion, that the mortality in great towns may be stated at from 1 in 19 to 1 in 22 and 23; in moderate towns from 1 in 24 to 1 in 28; and in country villages, from 1 in 40 to 1 in 50.

In considering the condition of the people in the street examined, it must be kept in view, that there were 47

families, consisting of 229 persons in 9 houses only, about 25 individuals to each house, which circumstance may be regarded as unfavourable to the health of the inhabitants, and perhaps as rendering the mortality in the street in question somewhat higher than the average mortality in the city at large; the former is 24 $\frac{1}{2}$ in 496, or from 1 in 20 to 1 in 21.

When it is considered that two diseases were rife in the year 1818, it does not appear unreasonable to estimate the mortality throughout the city at 1 in 25, which, supposing the population to be 40,000, will give 1600 for the entire amount. I am inclined however to think, that even this estimate exceeds the actual mortality within the city. If 1 in 25 be supposed a fair estimate of the mortality, it appears to follow that the population of this city is not so great as it has been generally thought; or that the amount of the mortality in 1818 was much greater. From every consideration it would appear that 300, the supposed amount of the mortality from dysentery, falls much short of the truth.

In the deaths stated in the table are included those which occurred in hospital, as well as those which happened at the homes of the patients.

TO DR. EDWARD PERCIVAL.*

Cork, September 15th, 1817.

DEAR SIR,

I would most willingly have replied earlier to your favour of the 26th of last month, for the satisfaction of the Editors of the Dublin Hospital Reports and Communications in Medicine and Surgery, had not professional concerns of a very urgent nature, intervened to prevent me. The interest of this subject to medical men, together with my particular respect for your wishes, would be a sufficient inducement with me to give my individual aid on such an occasion. In doing so, however, I must beg leave to say, that this duty might more effectually be performed by either of the gentlemen of our fever hospital here, from whom I would expect such a report on the typhous fever, which has so long prevailed amongst us, as might tend to throw light on the subject, and materially benefit the community. As this, however, does not seem to be in progress, I feel it the more incumbent on me to meet your request, as far as the comparatively limited sphere of action in which I move in hospital practice, together with my opportunities in private, will allow of.

This fever was first observed so early as November last to become more frequent than ordinary, and more fatal in its consequences. It continued to increase with-

VOL. I.

U

* Then one of the Editors of the Dublin Hospital Reports, &c.

out interruption, even during the winter months, and towards spring it became still of a more marked and serious nature. During the period of spring, which happened to be particularly arid, fever at length assumed a character generally alarming, and by no means confined to the lower orders, amongst whom it originated; several respectable families had been visited by it, of whom many valuable individuals became the victims. During the summer months, the influence of this contagion did not in any degree abate, in consequence of which an additional building, fitted for the reception of the poor, labouring under contagious fever, was found necessary. This was provided with becoming promptitude, under the auspices of the general dispensary. Towards the close of the summer months, the epidemic was diminished in a small degree as to numbers, and has been in its consequences less fatal. At present, however, it has again assumed rather an inveterate aspect, more especially amongst the better orders here; it seldom fails to deprive each family, where it shows itself, of an individual member, though by no means evincing a strong disposition to extend when the proper precautions are adopted.

The form of this disease is strictly typhoid, commencing invariably with confused sensations in the sensorium, accompanied with rigors rather of an indistinct nature, until about the sixth day from the accession, when the head becomes severely affected, often with intense pain in each temple, which generally extends throughout the entire head, attended with an intolerance of light and noise; suffused countenance, protuberant glassy eyes, white tongue, belly inclined to be costive, urine scanty and high coloured. On the eighth day these symptoms, which previously had partaken greatly of the character of synocha, and subsequently of synochus, unequivocally

cally bespoke the typhus, with its usual accompaniments, such as petechiæ, tumid abdomen, subsultus, furred tongue, delirium, increased heat, and great prostration of strength. In all cases the head appears to have been idiopathically affected, and to the injury existing there, the tumidity of the abdomen, the extent of the petechiæ, subsultus, and torpor of the urinary organs, were proportioned. This last symptom has, in particular, been found extremely distressing, and very few cases have occurred of fatal termination amongst the upper orders, where it had not early presented itself.

In no instance has it appeared that the lungs, or the abdominal viscera, have been engaged, save in low, damp situations, where a few catarrhal symptoms have been noticed, and which have hitherto required but moderate attention.

The duration of this fever has been extremely irregular, though commonly terminating on critical days. In almost every case of fatal termination the event took place on the eleventh; and when protracted to the seventeenth, on that day a partial crisis has been mostly observable, which has been, with little variation, followed up by a favourable issue on the twenty-first. In the latter case, profound and long continued sleep has marked the crisis, without any more pointed circumstance.

There does not appear to have been any very remarkable difference between the relative proportions of males and females who have been affected, but in the public institution, which is specially under my care, I have had thirty women ill, when the number of males during the same time, did not exceed four; the proportion of wo-

men, however, considerably exceeds that of men in the House of Industry.

The difference of mortality between the upper and lower ranks has been considerable; in the former, one in seven, and invariably more fatal in this class to the men than to the women, very few of whom have been attacked since the commencement.

The frequency of this fever does by no means seem to be attributable to any peculiarity of season. The sudden want of employment, and the consequent indolence thence arising; the bad quality of the food used by the poor; its scantiness; their indifference as to personal safety; want of cleanliness and of ventilation; their continual loitering within doors; want of sufficient fuel, together with almost a total privation of proper bedding: all combined, seem obviously to account for the origin and general dissemination of contagion, from the malign influence of which, operating generally both in town and country, neither the poor nor the rich were exempted.

In the House of Industry of this city, where nearly six hundred persons of both sexes, and of all ages, from the lowest dregs of society, have been confined in a very narrow compass, during the last nine months, not more than thirty-seven have been attacked with fever, and not one has died. The disease, as I have already remarked, was principally confined to the females, who were by far more numerous than the males, and of whom not more than six, at different short intervals, were attacked at any one time. At this time there is not one case of fever throughout the house. This favourable exemption I am disposed to attribute to the exact discipline of the house, evinced in the instant separation of the sick from the healthy, the necessary attention to cleanliness in all

respects, the regular supply of food of sound quality, and in sufficient quantity; careful ventilation and whitewashing, together with suitable accommodation of comfortable bed clothing, &c. From these considerations, it may be very justly inferred, that the source of contagion, in the present instance, is not to be referred to any specific cause existing in the atmosphere, else it should naturally be expected to concentrate itself in an institution of this description, so peculiarly fitted to imbibe its influence, and so exposed, from all directions, to its approaches. These circumstances, when fairly contrasted with the general necessities of the poor at large, must at once explain the origin of the disease, and, in what also, should consist the most effectual and decisive remedies.

I am, dear, Sir,

Very faithfully your

Obedient servant,

WM. SAUNDERS HALLARAN.

Some observations on the Medical Topography of Cork, as connected with the late Epidemic Fever, by Doctor Milner Barry.

IN my report for 1816-17,* I brought down the history of the epidemic to the termination of the year 1817, not including the medical treatment or symptoms, but such particulars as it was necessary for the public to be acquainted with, in order to turn their attention fully to the calamitous situation of the city, to rouse all classes to a sense of their common danger, and to urge them to

* Report of the Fever Hospital Cork, for the year 1817.

use the most active measures for checking the dreadful disease with which it was then ravaged.

In order the better to understand what follows on this subject, I shall here insert a short description of the city Cork, to which reference will be made as I proceed.

The principal part of the city of Cork is built upon an island, formed by the division of the river Lee into two channels, about an English mile above the city, and meeting again at the point of what is called Lapp's Island, where the channels unite below the city, and flow in one stream to the sea. This island is intersected by a vast number of canals, which are accessible to the tide and were formerly open docks, into which vessels and boats used to sail, and to transport merchandize of every kind to the very doors of the inhabitants. On the departure of the tide, the vapours emitted by the mud which covered the bottom of these canals, were intolerably fetid and justly considered unwholesome. The inhabitants have been therefore at considerable expense to arch them over, a work at length effected to the great advantage of the city, which has been by this means improved in the increased purity of the atmosphere, and the general appearance of the streets. By considering those arched channels as so many capacious sewers, it will be readily conceived with what facility the filth of the city may be carried off by proper communications, extending from the houses to these channels, which are filled by the tide twice in the twenty-four hours, and cleared out. It will appear strange, that with such an inducement, so very few sewers of sufficient capacity have been made from the houses, when health is concerned; this shews how people will overlook advantages which are before their eyes. Before I quit this part of the subject, I think it necessary to state, that one of the principal streets, the main street, extending north and

south, has a number of lanes, which open into it, consisting of old houses, inhabited by the poorer classes, and it has not a single wide street cutting it at right angles from east to west.* It is however in contemplation to open one or more streets in this direction, which when finished, will admit the western breezes, the harbingers of health and pleasure, to range through the centre of the city. The houses in these narrow lanes are mostly of three or four stories high, and each room is occupied by one family and sometimes more. The common stairs and the yards are throughout in a most filthy state, being never washed, and the windows are mostly stopped up to evade the window tax, or if not shut up, they are imperfectly glazed. Several of the dung-yards are situated in these lanes, while every yard behind the houses is also employed in the same manner.

The suburbs of the city extend very far, both to the south, the north, the east and the west, and are composed either of some tolerably wide streets, or of a number of narrow lanes, consisting of small houses of one story high, which are inhabited by labourers and tradesmen and their families. The inhabitants of those extending to the south and west, consisting of the parishes of St. Barry and St. Nicholas, are much the most poor and miserable. In St. Barry's the entire inhabitants of some lanes are employed in collecting manure to be disposed of when the season arrives; and as has been remarked, although the measures pursued in some of the other districts were successful in producing a temporary cessation of the contagious fever, not the smallest impression seems to have been made upon the parishes of St. Barry and St. Nicholas, where these miserable manufactories of manure are chiefly situated.

* Since the above was written, one street has been opened, extending east and west, which has been already singularly serviceable to the inhabitants adjoining.

I am aware that this is a very imperfect account of the medical topography of the city of Cork: a number of circumstances ought to be added to make it complete, such as the climate, temperature, supply of water, the occupations and habits of living of the rich and poor, &c. but I have not leisure at present for such an undertaking.

In the appendix to the report for 1816-17, I have inserted the resolutions of the physicians at large, who were convened at the request of the mayor and sheriffs on Thursday November 6th, 1817. From some circumstances which afterwards occurred, I wish it to be understood, that it was at the request of the Weekly Committee, which, at that time, exercised, as far as was in their power, the functions of a Board of Health, that this meeting was called; and farther, that together with the other physicians present, I advised such a proceeding. From the meeting of the physicians, until the subsidence of the epidemic, these resolutions served as the basis by which the weekly meetings were influenced, as far as the law would permit them. In page 26 of the report, I mentioned the appointment of two Medical Inspectors, Drs. Crofts and Warren, who at first volunteered their services, but afterwards received a monthly salary, which, though larger than that paid in Dublin, being 15 guineas per month, was quite inadequate to the anxiety, risk and labour which these gentlemen encountered. To prove the propriety and necessity of appointing such Inspectors as recommended by the Committee of Physicians, I have mentioned that out of ninety persons, sent by one of these gentlemen to the fever hospitals, not more than one-fourth had applied for admission through their own friends. Besides recommending the removal of such of the poor as laboured under the disease, the duties of the In-

inspectors, whose number was afterwards increased to five, were to enforce cleanliness in the persons and dwellings of the poor, to cause the wearing apparel and bedding of the sick to be ventilated and purified, or where this could not be effected, to be destroyed; to superintend the whitewashing and cleansing of the apartments and furniture, and to cause the rooms to be fumigated with oxymuriatic acid gas. In the report to which I have referred, I have pointedly alluded to the abominable filth in which the city had been suffered to remain, and had repeatedly, in previous reports, represented strongly this growing evil, and urged the necessity of its removal. The Medical Inspectors, from their appointment to the termination of their arduous duties, made weekly reports of this horribly filthy state of the city, in which they pointed out the parts most particularly requiring to be swept, and also such other places as contained deposits of animal and vegetable matter in a state of putrefaction. I am sorry to be compelled to say, that notwithstanding the weekly remonstrances of the Inspectors, and the strong conviction of every member of that Committee, that the general neglect of cleanliness had contributed greatly to extend and aggravate the effects of the contagion; the magistrates, after several abortive efforts, declared that it was utterly out of their power to use any effectual means for thoroughly cleansing the city. As I had been long convinced, and frequently declared my conviction of the utter inadequacy of fever hospitals, without much more extensive powers than were at present possessed by the Committee who were engaged in endeavouring to suppress the contagion, I desisted from any farther attempts to procure a general cleansing of the city, and waited until by the establishment of a Board of Health, or some other means, the laws should be adequate for this purpose. To shew the increase of the mischief I shall here mention, that in the

survey which was taken, previously to the law authorizing a Board of Health, I actually found, within a short distance of the Exchange, in the most populous and frequented part of the city, four of these large depôts of dung, which discharge the most offensive effluvia into the atmosphere, and taint the dwellings of the poor, so as to render them intolerably noxious and unwholesome. There are also a considerable number of similar depôts in Portney's-lane, to which the sweepings of the large streets are carried daily and locked in; each house in such lanes where there is any yard behind, is kept in a state of filth by serving as a passage to the dung, which is heaped up, as far as the yard can hold, with this material. The other gentlemen, who were appointed on that inspection, found similar deposits in other quarters of the town, in the centre of the habitations of the poor. It may be easily conceived, that there can be no health for persons residing in such an atmosphere, and notwithstanding the opinion which has been theoretically expressed by more than one physician of eminence, there is not the smallest doubt but these deposits of filth, which are a disgrace to this city, are not only the sources of general bad health, but that the places where they are situated have never been long free from contagious fever. This has been proved by the unerring evidence of the books of the fever hospital, to which any gentleman may have recourse who has a doubt on the subject. It may be alleged, and with truth, that in spite of these circumstances, the typhus sometimes subsides in the city to a degree, which may surprise those who have witnessed the present epidemic, and the immense strides which it has made. But one of the worst consequences, which arise from the neglect of the police on this point, or perhaps, from its deficiency in legal power, is, that whenever the other predisposing causes of the disease are in action, the contagion is always to be found lurking in those parts of the

city, and spreads with great rapidity to other quarters. It has been said, and with a sort of triumph, that this city has been always equally involved in filth, but that no effects equally extensive and disastrous as the present had ensued. I have been for more than eighteen years physician to the fever hospital, and during that time have been a painful, but attentive observer of the different causes which operated in extending contagion, and have uniformly asserted, that the accumulation of animal and vegetable matter, the poisonous vapours arising from the sewers, or from places where no sewers were established, have been the principal remote causes of the extension of contagious fever. This was the case in the epidemic of 1801, but I think I can trace an annual rapid increase since the year 1810, and I can aver, that there has been a corresponding increase in those accumulations of filth, and in the general neglect of cleanliness since that year. The number of fevers admitted into the fever hospital were but 278 in the year 1809; in 1810, the number was 432; in the following year, the number admitted was 646; in 1814, the number admitted was 845; and in 1817, the number admitted was 2707. During this increase of fever, the city was entirely neglected as to measures of cleansing, and this neglect had much increased for four or five years previous to the extension of fever, in consequence of the Recorder's having stated publicly that by one of the local acts the sweepings of the city did not belong to the corporation of Cork, but where they neglected to farm them out, became the property of any persons who were at the trouble of collecting them. Before this opinion was promulgated, the corporation let out the manure, and added to their revenues by the rent received for it. During the time that this right was exercised by the corporation, the streets were kept comparatively clean, but when it was relinquished, the scavengers of the city, who with their fami-

lies, have actually converted the collection and sale of manure into a trade, took the opportunity of distributing the city into districts, in each of which the dung was appropriated by one or more of these persons.

With the conviction upon my mind, which I have so often alluded to, that without full and complete authority to use all the external means that were recommended by the physicians in their resolutions on the 6th of November 1817, I had the additional experience of two years to prove to me that extending hospital room, even with every accommodation, was quite insufficient to put a stop to the progress of the infection. I beg leave to refer to these resolutions, in proof that my learned colleagues, at one of the fullest and most respectable meetings of the medical body that ever took place in this city, coincided with me. These resolutions were,

1. That we lament, in common with our fellow citizens, the continuance of the contagious fever, which still prevails in this city and neighbourhood.

2. That, referring to the probable origin of the disease, we ascribe its continuance chiefly to the want of employment; of sufficient food; suitable clothing; fuel; cleanliness; free ventilation, and the various privations to which the poor are still liable.

3. That we recommend to the proper authorities the adoption of more decisive measures than have been hitherto taken, with a view of obviating the above causes, such as,

That fuel be supplied to the poor, at a cheap rate.

That the strictest cleanliness be enforced, both in their persons and dwellings.

That the streets and lanes be carefully and daily swept, and all dunghills and impure collections immediately removed.

That all wearing apparel, bedding of the sick, &c. (being amongst the chief sources of infection) should be destroyed or ventilated, and purified with the utmost care.

And that public necessities and sewers be opened, communicating with the main river.

4. That it is to be lamented that the sick are left in their own filthy and unventilated dwellings; that therefore, in order to confine or arrest the progress of the contagion, we deem it indispensably necessary that their early removal be rigidly enforced; and as there is great reason to apprehend that cleansing and purifying the habitations, &c. of the poor, have been either negligently performed, or entirely omitted, we consider it expedient that the city be divided into certain districts, and an Inspector appointed to each, to enforce the regulations above mentioned.

5. That, to enable the established fever institutions to meet the necessities of the present crisis, and to prevent the evil consequences of an immediate communication between the convalescents and their families, the Mayor be requested to apply to Government for the use of some building at their disposal, to be converted into a temporary convalescent asylum.

6. That we are, at all times, individually and collectively, ready to co-operate with the civil authorities in carrying the above measures into effect.

ROBERT HARDING, M. D. Chairman.
WILLIAM CROFTS, M. D. Secretary.

REMOTE CAUSES OF THE FEVER.

Various opinions have been advanced by respectable medical writers on the causes, which extended this fever so much more generally on this than on any former occasion, and, as might be easily conceived, from the difficulty of a subject, involved in so much doubt and uncertainty, many of the conjectures, though ingenious, are wide of the truth.

Constitution of the Atmosphere.

An opinion has been revived on this occasion by an acute and observing friend, who has lately published on the subject, I mean Dr. Pritchard of Bristol, who is disposed to attribute the great extension of fever to an epidemic constitution of the atmosphere, a doctrine held by Sydenham, but not credited by any physician of the present day. Numerous facts may be adduced from the history of the present epidemic to show the insufficiency of this opinion; for instance, the barracks, which are situated upon elevated ground, about an English mile from Cork, though generally containing three regiments of foot, during the whole period of the epidemic, suffered much less from typhous fever than for many years before. If, however, this epidemic constitution existed, the contagion would necessarily have spread, as the disease appeared at different times amongst the soldiers and their families. But if this epidemic constitution of the atmosphere did exist, it must have operated nearer home; how could it have happened that, in entire streets inhabited by the better class of people, perhaps not more than one, two, or three instances of the disease could be found, while the streets and lanes, where the poor resided, were teeming with infection from one end to the other? This was proved very strongly towards the conclusion of the epidemic, at which period, while

scarcely any of the poor were exempt, it rarely attacked any of the richer inhabitants. I have paid more attention to this doctrine of the *constitutio epidemica* than perhaps it deserves, fearing that the admission of such a doctrine, if generally believed, would produce an inertness in adverting to and removing the well known and established predisposing causes.

Putrid Miasmata from Fermenting Animal Substances.

Another of the predisposing causes, and the most powerful of all, is the exhalation from animal substances in a state of putrefaction. This also has been exalted into the principal exciting cause, as if of itself sufficient to give origin to contagion, from whence it may afterwards be extended indefinitely. I confess myself not perfectly satisfied that typhous contagion may not, under certain circumstances, be generated in this manner, but would merely observe, that I have sometimes visited the neighbourhoods of the deposits of animal manure, for the purpose of having them removed, and have been called to visit the inhabitants. On such occasions, as I have already stated, contagious fever was common in their houses, where, from the absence of a pure atmosphere, it spread more readily than in other quarters; yet it has happened to me, more than once on such occasions, to have witnessed every extreme of misery in the inhabitants, which was shewn by the general emaciation, paleness and debility, and yet they have been exposed to the constant agency of these putrid emanations, without shewing any symptom of contagious fever. This disease, however, sooner or later, found entrance, and swept away the inhabitants in great numbers, and served as a focus whence the infection extended to other quarters.

But while some physicians elevate predisposing or concurring causes into causes sufficient to produce the disease, others are disposed to deny the existence of contagion altogether. Though the doctrine of the non-contagious nature of fever has been frequently refuted, yet I shall adduce some facts, which to me seem conclusive on the subject. The persons who were most exposed to the infection were physicians, apothecaries, nurses, and clergymen: there were no less than nine physicians attacked with fever during the epidemic; of these Dr. Lindsay was the first; he contracted the disease in visiting the poor as physician to the dispensary. Dr. David Barry contracted it while acting as physician to the Peacock-lane Fever Asylum. Dr. Osborne while acting as physician to the Dispensary and North Fever Asylum, and also five, who were acting as Inspectors, viz. Dr. Cantillom, Dr. Pickles, Dr. Crofts, Dr. Herrick, and Dr. Warren: all these, with the exception of Dr. Warren, laboured under typhus of the worst description. Almost all the apothecaries, and several of the nurses at the different hospitals, took the disease. The Roman Catholic clergy, who are much exposed to contagion whilst receiving confession, suffered greatly from fever.

It is doubtful whether the exhalations from animal substances, in a state of putrefaction, or the accumulation of effluvia, arising from living animal bodies confined in close rooms, with little or no mixture of atmospheric air, be most injurious; but, as far as my observation extends, I consider the latter as possessing a much stronger tendency to extend contagion than the former. In a place, which was dreadfully infested with fever, called Hughes's-lane, the lower parts of the houses upon the ground floor were quite free from contagious fever, while

there was scarcely a room in the upper part that was not crowded with wretched inmates, labouring under contagion, which could not be dislodged. Now the streets, yards, and houses below, were in the most abominable state of filth, while the rooms, in the upper part of the houses, had no means of admitting the air, as the windows had been stopped up to escape the tax. The only way to explain these facts is, that the putrid exhalations from below, though highly deleterious, came to the inhabitants blended with a certain portion of the atmospheric air, which was entirely excluded from those above. This fact was mentioned in the House of Commons by Sir John Newport, and furnishes a decisive argument against taxing the windows of the poor. An old friend of mine, who had escaped fever to a pretty advanced life, took the disease by entering a garret, without an open window, to see a servant, who laboured under it, and was very near dying in consequence of it.

Its greater extension has been assigned by one ingenious writer chiefly, if not solely, to the scarcity and bad quality of the food. That the scarcity was not of itself sufficient to induce epidemic contagious fever, is to be inferred from the well known fact, that the want of food has been frequently carried a considerable length in individuals, and in communities, without producing or extending this disease. The history of cities besieged for a considerable time, in which scarcity had been gradually increased to famine, would furnish many instances to illustrate this point. In a diary, which was kept of the celebrated siege of Londonderry, where the inhabitants were compelled to eat unwholesome provisions, dysentery prevailed to a most destructive degree, but no typhus. There is not the least doubt, however, that scarcity and bad provisions were amongst

the most prevalent causes in extending the contagion. In farther proof that it was not the principal cause, it is well known that the extension of the disease continued to increase in this city, as well as other places, after provisions had become cheap, wholesome, and plentiful.

NOTE.—For the sequel of these valuable extracts of Dr. M. Barry's Letters, the Editors refer the reader to the Medical History of Fever in Munster.

SECTION II.—PART II.

Roscommon, April 1818.

A BRIEF ACCOUNT OF THE EPIDEMIC FEVER, AS IT AP-
PEARED IN THE COUNTY OF ROSCOMMON AND PARTS
OF THE ADJACENT COUNTIES, DURING THE YEAR
1817, AND PART OF 1818,
BY SIR THOMAS MORIARTY, M. D.

THE following history of this epidemic is nearly the counter-part of one, which was transmitted by me to Doctor Robert Perceval in last September, who requested answers to particular queries, for the satisfaction of Government, and the furtherance of its humane views. The continuance of the disease has enabled me to make additions, and I have ventured to subjoin some conjectural opinions on the nature of a disease, which still, both in theory and practice, forms a subject of much contradiction amongst medical practitioners.

About the end of February last the first cases appeared, and, as usual, amongst the most squalid and distressed of the peasantry; the disease seemed to have been produced by unusual fatigue of body, owing to the lateness and se-

verity of the autumnal season, which not only protracted, but multiplied the husbandman's labour to an extreme degree, particularly by their great exertion in carrying turf on their backs out of the bogs, and consequent sudden changes in the temperature of the body, the rain rushing into their cabins in torrents, and no refreshing ray of fire to counteract the morbid effects of both on the human frame.

The previous autumn and winter, with all their horrors, such as incessant rains, scantiness of food, and that too of bad quality, the potatoes soft, and the grain malted, and above all, the scarcity of fuel, so pressing that whole families roved in troops, for several miles, in search of rotten trunks or boughs of trees; that the highest enclosures of demesnes were scaled, and trees by wholesale cut down; even the very bushes, which for ages were held as sacred land marks, under the melancholy privations of the day, were levelled to the earth; an injury which, at other seasons, would be stamped as sacrilege; all these had predisposed the body and mind, if in such cases the latter exercises any influence, to the production of contagion.

The first symptoms were chills, slight headach, sensations of debility, languor, the tongue white, and the pulse often not varying from the natural standard of strength and frequency. Occasionally catarrhal and rheumatic affections were present, the latter, most frequently supervened to the crisis of the disorder, and postponed the convalescence; the former were either coexistent with, or came on shortly after the first invasion, and were in general so slight as not to require any particular activity of treatment.

In the month of March, the disease appeared to have

extended itself: and distinct as also unequivocal cases, during this and the following month, could be traced to contagion amongst the middle classes of life, whose circumstances of comfort and affluence exempted them from the privations and sufferings incident to the season; at this period the fever assumed, more frequently, the form of typhus gravior; the headach in the commencement was more severe; the cough more troublesome; the skin hotter. Delirium, subsultus and petechiæ were frequent in the advanced stages; still, however, the greater number were cases of typhus mitior, and the preceding symptoms with singultus appeared at times, when no cough, and scarcely any headach existed from the beginning. The cough, when present, generally abated as the disease advanced. A few cases were ushered in with comatose symptoms, but the abdominal viscera, at this period, shewed no unusual affection; the bowels, indeed, were much inclined to constipation.

In the month of May, legions of beggars were seen traversing the whole face of the country, and directing their steps to such towns or private residences as were most distinguished for the largeness of their contributions, or philanthropy of the proprietors. The disease now spread to an alarming extent; the sides of roads, the fields and verges of bogs, were studded with huts, where the hapless victims of sickness consigned themselves to the mercy of God, and the sympathy of man.

As the poorer householders of the suburbs of towns and of large villages, were most exposed to contagion, in consequence of their affording shelter to infected strangers, so they were the first victims to the rapid march of fever; sympathy with distress is first found in those classes, which in condition approach nearest to the persons labouring under any public calamity; the gatekeepers,

servants, and domestics of families who exercised extensive charity, were soon attacked, and from these, in some examples, the children first, and then other members of such families were visited; except, however, in a few instances, the upper ranks at this period almost entirely escaped; males in greater proportion than females were seized, and children above the age of six years were susceptible of the contagion, even more than adults.

Having now observed its gigantic strides, I thought it my duty as physician to the gaol, to prevent all communication between visitors and prisoners, unless by my expressed permission; and I also intimated to the respectable inhabitants of this town, the absolute necessity of confining their charitable donations to the paupers and distressed families of the parish, who, in point of number and misery, would absorb tenfold more than they could give to them; in this way they would discourage the hopes of itinerant beggars; and on all classes I impressed the policy and prudence of ventilation, whitewashing, and the removal of all nuisances from their houses, the execution of which I myself inspected, supported by a magistrate.

By this plan I had the satisfaction of having protected the gaol, for the first time within my memory, from the visit of even a solitary case of typhus, though there were at the time two hundred prisoners within its walls; and I had a still greater happiness in observing, that Roscommon was the only town in the province which escaped the fury of the epidemic; very few cases having hitherto occurred within its precincts.

I have been precise in this point, to shew the great value of cautionary measures.

In the months of July and August, diarrhœa appeared a more frequent attendant on fever than heretofore : towards the end of the latter month the fever found its way into the charter school, which, situated about one mile from this town, contains thirty-nine girls, from the age of seven to sixteen years. At first five girls got ill, at the end of a week twenty-one others, and finally the remaining ones, with the governess, though every measure of precaution was adopted that the accommodation of the place would admit of, in separating the diseased from the healthy, and in cleanliness, fumigation and ventilation.

In these cases, the symptoms varied from the ordinary appearance by an eruption, much resembling measles, occupying the face, hands, and extremities, and indeed, the trunk ; it generally was coeval with the accession of fever, was in distinct papillæ, elevated, rough to the touch, and of a dusky red colour, and was an attendant on each case. About the third day it became more sessile, and was the certain precursor of a more early and diffused petechial eruption, so early as the fifth day ; the tongue became sooner brown, and the delirium, though not severe nor violent, became in many of them, particularly the older girls, more constant, as with these the disease was more protracted ; in about a third of the number the fever terminated with a pustular eruption on the arms and hands accompanied with tumefaction, which resembled the pustules of matured small-pox, and the swelling which occupies the extremities when that of the face subsides, thereby affording a very curious and interesting example of the disease having partaken of the type of the two concurrent epidemics, measles, and small-pox : all these patients recovered. At this period of the season, the morbillary eruption was almost an invariable attendant on the cases of typhus in young persons who had not arrived at the age of puberty.

In private practice, I met a number of cases of profuse ptyalism, most of them in persons of respectability, and generally females; it commenced with the very accession of fever, without any soreness or tenderness of the gums, amounted to some pints in the day, continued during the whole course of the disease, appearing much connected with bilious and feculent accumulations in the alimentary canal, seeming to supersede the usual discharges of crisis, and was a favourable symptom. There was but little tendency to delirium in any of these cases, and there existed a peculiar sensibility to external objects; the spitting gradually decreased, as amendment proceeded.

In other respects the epidemic exhibited great uniformity in its progress and symptoms; its usual duration was fourteen days with adults, and nine with those under puberty, and the predominating form of crisis was perspiration; relapses were not frequent, and the general character, in the outset, had nothing about it more malignant than at other seasons; on the contrary, its approach and formation were often so slow and so insidious, and the premonitory symptoms so slight, as to pass for some trifling febrile cold or bilious affection, until the ninth or tenth day, when on the tongue a brown or parched mucus, and a quick accumulation of debility, unfolded its genuine character; in consequence of which deception, illness, terminating in death, seemed to have been but of a few days continuance. The perceptions and intellectual faculties were often unimpaired throughout; indeed, I sometimes thought them more than naturally acute.

In the month of October, there was a frequent inter-currence of bilious diarrhoea; and in November and December of catarrhal fevers, which seemed to have some

influence in contracting the extension of the epidemic; and in January 1818, inflammatory fevers arose, which seemed to have supplanted the original disease; since then, the epidemic has declined considerably in some, and disappeared altogether in many districts. I may say, it is nearly narrowed to its usual boundaries. In the inflammatory fevers, the tongue was usually cream-coloured; cough troublesome; stitches severe, but often appearing as only affections of the intercostal muscles, and the head not at all engaged.

The chief peculiarities of this epidemic, were, 1st. The early appearance of petechiæ, and often without corresponding symptoms of severity, and under circumstances of ventilation and cleanliness, strongly indicating that the crisis of the blood must have been previously broken down by debilitating causes.

2dly. The great tendency to ptyalism.

3dly. The intermixture in type of the concurrent epidemics.

4thly. The singular susceptibility among children, and even infants, of its contagion.

And lastly. The determinate periods of duration in the two stages of life, the 14th day with adults, and the ninth with young subjects.

The only preceding epidemic was the hooping-cough, which was very prevalent during the antecedent summer and autumnal months.

But there was a most fatal concurrent one, I mean the

small-pox, in general of the confluent kind; which swept off multitudes with a more deadly aim than even the contagious fever, and exhibited in its last stages a high degree of putrescence. This is now a disease, which the physician seldom sees but among paupers, and hence he is less conversant with it than formerly, when, from its occurring among the upper ranks, its whole progress was placed more immediately under his observation. In this instance, however, it made its way into respectable families, and had seized a child, who was considered to have had the genuine vaccine disease four years before. There was nothing dissimilar from the usual appearances observed in the confluent small-pox in the one alluded to. Convulsive affections came on, in consequence of no succeeded swelling of the extremities occurring, after that of the face subsided, but those immediately ceased on such swellings being produced by the application of sinapisms.

Among the poor, however, obsolete notions of treatment, and a want of accommodation, as also of common necessities, render this, and all other diseases, more malignant. Chicken-pox also was common during the autumnal months.

The rate of mortality among the poor, who were exposed to want and mismanagement, amounted to about one in ten, and with such as had care and medical attendance, it did not exceed one in nearly forty; among the wealthy about one in six died.

Several clergymen, and seasoned medical practitioners, have fallen victims to the disease caught in the discharge of their professional duties.

My general treatment consisted in local depletion, pur-

gatives, blisters, antimonials, permanent and diffusible stimulants, according to the variety and degree of the symptoms.

Emetics, given early, often succeeded in cutting short the disease, and antimonials relieved the pectoral affections, and not rarely arrested the progress of fever; leeches, and cold applications to the head were serviceable in diminishing headache and delirium.

In a case of typhomania in an apothecary, on the 12th day, attended with an appearance of vascularity in one eye, and the attollens palpebræ, much of the other apparently paralyzed and subsultus tendinum, the patient forcing his way through the house dancing, laughing and singing, cold applications to the head were attended with advantage. In this instance it was remarkable that, in proportion as the pulse filled under the use of wine, the violence of the delirium diminished.—Is it not probable that delirium is produced by opposite causes, by increased vascular action propelling too great an increase of blood to the head, and by want of sufficient vascular powers to circulate the usual quantity?—But to return: in this case I also gave musk and camphor, in bolus, and opiates at night. The patient recovered. In all the cases in the charter school, when symptoms of debility occurred, wine, and remedies similar to the above, were given, without regard to the delirium, and all the thirty-nine recovered.

In the synochus form, purgatives and antimonials were of great and decided advantage. In one case, under this denomination, I ordered venesection, where the lungs appeared much oppressed; and with benefit. This was the only case, during the entire epidemic, in which I resorted to that mode of depletion: other practitioners,

however, were not so abstinent; and in this way I have witnessed results not by any means encouraging to the use of the lancet. In one case it induced hydrothorax, where only very slight cough, and no affection of the respiration, had existed.

Causes that depress the mind and body, are favourable to the production of contagion; hence it has always been an attendant on seasons of scarcity and distress, and to this source the late epidemic owes its origin. By the failure of a considerable provincial bank, the sudden drying up of the channels of industry, and the great depreciation of cattle and grain, there ensued an extensive accumulation of pecuniary embarrassment to depress the mind. Owing to the wetness and coldness of 1816, the husbandman's labour was protracted to an unusually late season; the crops either did not ripen or were malty, and there was an alarming scarcity of turf, hence the body also was depressed: both combined, must have caused such changes in the proportion of the fluids, in animal heat, and in the state of the surface of the body, as are usually favourable to the formation of contagion.

Hence the fever appeared at the period that these causes began to operate, about the end of February, and proportioned its pace with that of famine, which was felt most in June and July.

As these causes ceased, the typhoid constitution began to decline, and the inflammatory to commence.

• To the preceding remarks were added some ingenious speculations on the nature of fever, but as these do not accord with the plan of this work, the Editors have deemed it proper to omit them.

Roscommon, May 24th, 1818.

HAVING already detailed the history and progress of the epidemic fever in my paper, transmitted to the Editors early in April last, I have but little to answer in reply to your queries of the 20th ult.

The only articles of food, resorted to during the last calamitous season, not in common use, were borage, nettles, and water cresses. The principle article of diet was oatmeal, dressed in various forms of bread, stirrabout, pottage or gruel.

The epidemic was at its height in the month of June 1817.

There was no fever hospital or place of reception in the whole county, save one on a small scale, at the expense of the Bishop of Elphin. There were dispensaries that distributed medicines, and probably advice, in case of application.

In one case of a medical person, the contagion lay dormant for about fourteen days, and was then excited into immediate action by the exercise and perspiration attendant on a long and hurried walk; in the interval he was not exposed to any contagious disease.

The medical persons who were seized by fever in the exercise of their professional duty, were Doctor Prendergast; Mr. M'Dermot, apothecary; Mr. Feeny, a naval surgeon, who superintended the Bishop of

Elphin's dispensary, and Dr. Barlow of Moate, near Athlone; the two last fell victims to it.

The disease did spread in houses in which attention was paid to ventilation and cleanliness.

From the month of January last the disease appeared suspended, or altogether removed; I am sorry, however, to mention, that on the roads are again presented the miserable habitations of poverty and disease; in the villages too, cases of fever are multiplying. The poor have suffered most severely during this spring, from a scarcity of fuel; a circumstance that I observed last year to have decided influence in the production and propagation of disease.

THOMAS MORIARTY.

To the Editors of the Dublin Hospital Reports.

*In reply to their second set of Queries.**

Carrick-on-Shannon, May 29th 1818.

1. "When the epidemic fever appeared in your neighbourhood, were many of the labouring poor out of employment? In what state were they with respect to fuel, clothes, and food? Had any part of them subsisted on articles not usually employed as food?"

Answer. For some months previous to the commencement of the fever in this neighbourhood, the labouring poor had suffered much from the want of employment. The scarcity and dearness of fuel, bad clothing, and deteriorated food, were the chief objects of general com-

* See Dublin Hospital Reports, &c. vol. 2, p. 376.

plaint; numbers lived on the common vegetable productions of the field; the wild rape, and a species of spinage, were the principle articles of diet, which the women and children were continually seen gathering.

2. "In what month was the epidemic at its height?"

Ans. It raged with equal severity from about the middle of June to the latter end of October 1817, and was renewed with the same virulence and frequency in February last.

3. "Has it abated, or is it abating, in frequency and severity; and if so, to what do you attribute the abatement?"

Ans. Since March last, we have had but few cases (comparatively speaking) of the typhus; but I cannot say there was much alteration in respect of severity of symptoms, or duration of disease; if any thing, it was milder: there were not so many instances of its occurrence among the upper ranks, owing, most probably, to the diminished number of vagrants. The general abatement of the epidemic must, I think, be attributed to the improved state of the diet, and comforts of the lower classes, principally; probably the alteration of season, and diminished susceptibility from habit, might have had some influence.

4. "In what proportion have the inhabitants of your district been affected with the fever?"

Ans. The town of Carriek-on-Shannon contains something more than 2000 inhabitants; the number affected with the disease was about 300, being nearly 1 in 7; but I cannot average the surrounding country.

5. "What has been the rate of mortality, among the
"upper ranks, and among the poor?"

"If you have a fever hospital in your neighbour-
"hood, be pleased to send a list of the admissions,
"discharges, and deaths, monthly, since its estab-
"lishment."

Ans. There are few of the upper class in this town or neighbourhood; out of 10 of this class, whom I know to have had the fever, 4 died; of about 200 of the poor of the town, whom I attended, and kept a registry of, 8 died. There is no fever hospital near me.

6. "Can you ascertain the excess of mortality of the
"year ending 31st March 1818, over the average mor-
"tality of the last four or five years, in any parish or
"parishes in your neighbourhood?"

Ans. In the parish of Croghan, an adjoining one, I have ascertained, from the parish Priest, the excess of mortality of the last year above the preceding years, averaged to be as 2 to 1; in the parish of Fenagh, the mortality of protestants was as 4 to 1. I could not ascertain that of the catholic portion. In the parish in which I reside, the number of deaths for the past year, as taken from the registry, were 274: the greatest number of any of the 8 preceding years was 100.

7. "In the progress of the epidemic, did the disease
"undergo any change with respect to the organs chiefly
"affected; or with respect to its duration, to the mode
"of crisis, or the tendency to relapse?"

Ans. The epidemic preserved its general characters, without much variety, during its entire course; in almost every case the affection of the head was the prevailing

symptom throughout. When the fever first made its appearance here, there were several instances of its commencing with hepatic inflammation. In the winter months, pulmonic symptoms very frequently ushered in the disease. Petechiæ were a very constant attendant, and their early appearance was considered a favourable prognostic. From the 9th to the 14th day the disease, in general, reached its height, and soon terminated critically; the delirium became exasperated, and all the febrile symptoms were aggravated, previous to a crisis. The patient, from a state of increased excitement, fell into a deep, and frequently a long continued sleep, from which he awoke refreshed, and thenceforth a gradual amendment took place, the tongue first indicating recovery, by cleaning from the edges towards the centre. Earlier than the 9th day a crisis seldom took place, and when it did, was not often decidedly conclusive, the patient being subject to relapse. It may be generally remarked, that the earlier the crisis, the more liable was the subject to relapse.

8. "What have been the morbid sequelæ of the fever?"

Answ. I have not observed any worthy of remark; sometimes there was a longer continued debility than usual after recovery.

9. "Have you made any dissections, and what has been the result?"

Answ. The prejudices of the country people here against this mode of observation, have prevented my having recourse to it, in any instance.

10. "What mode of treatment have you found most efficacious?"

Ans. It would be difficult to give a decided opinion if my judgment was to be formed from the majority of cases I have seen, which were chiefly among the poorest orders; as these, generally speaking, recovered under the simplest management, and with very little medicine, many without any, and often under quite opposite modes of treatment. I have repeatedly seen a family of four or five, lying together in the same bed, affected with typhus; some in the advanced stages, with delirium and subsultus; others in the commencement; and whether they did or did not take medicine, they all got through the disease with safety; however, this refers only to the very poorest orders, whose previous distress seemed to have prepared them for a mild attack of the epidemic. The most successful treatment in the summer and autumnal months, seemed to be the purgative plan, combined with a cool and thorough ventilation. Calomel, with some other cathartic, given two or three days successively; either occasionally, in the course of the complaint, or alternated, with purgative enemas; frequent sponging of the body with tepid vinegar and water; a free and thorough ventilation, with the greatest attention to cleanliness; cooling drinks (cold water not the worst); cold applied to the head, which was early shaved; and blistering, in the latter stages, was the general plan of treatment found to answer in almost all the cases which came under my observation; yet there were a few which resisted every treatment, and these were some of the mildest cases in the commencement. In the winter months, when the symptoms of topical inflammation, particularly of the chest, were more frequent, and better marked, phlebotomy was added to the list of remedies, with manifest advantage.

11. "Have you employed blood-letting as a remedy for the fever; and if so, to what extent have you carried

“ it; in what number of instances have you practised it;
 “ under what combination of symptoms, and with what
 “ effect? Have you found it beneficial, or otherwise, in
 “ the commencement of the disease? Have you found it
 “ beneficial, or otherwise, in the advanced stages of the
 “ disease?”

Ans. I have before remarked that, at the first appearance of the epidemic in this country, congestion in the liver occurred, in some instances, in the early stages of the disease; to relieve this symptom I had recourse to the lancet. In the first case of this kind, I bled to 18oz. in the morning, and to about 16oz. in the evening of the same day; on the following morning, when about to repeat the bleeding for the pain in the side and difficult respiration which had recurred, syncope coming on, together with alarming symptoms of general debility, induced me to desist, and substitute a blister to the side, and the use of calomel introduced as quickly as possible into the system, so as to affect the mouth. This man died on the 9th day, jaundiced, with petechiæ and vibices. I had seen him on the 3d day of his illness; he was of a strong constitution and sanguine temperament, and had been submitted to the most active treatment. In two other cases of hepatic inflammation, I bled to ℥xvi . as soon as I could after seeing them. They both went through the disease safely. During the rest of the summer, I met no case which seemed to indicate bleeding, but as the cold weather set in, inflammatory symptoms became more prominent and frequent. The practice I then established was to bleed as early as possible, to 12 or 18oz. according to the constitution, but I seldom resorted to it the second time. I am confident this mode of treatment rendered the subsequent disease milder and more manageable. This practice was pursued till March last, when the fever very much subsided. I cannot recollect in how

many instances I used phlebotomy; I dare say I am within the mark when I state 100. I began to use it about November last, finding the pulmonic symptoms, in general, very urgent, and from this time forth I continued the practice in the early stage of almost every case of typhus I met with, but rarely had recourse to it in the advanced stages; nor did I bleed merely because it was the typhus fever, but because there were present (more or less) symptoms which indicated topical inflammation of either the thoracic or abdominal viscera. I did not use phlebotomy for the delirium, unless where it set in very early, and continued with circumstances, which evidently indicated inflammatory action. I have, however, bled with leeches from the temples, and have opened the temporal artery, in the advanced stages, where there was acute pain of the head, great intolerance of light and suffused conjunctiva, and I think with advantage.

12. "Have you any knowledge of the employment of
"any domestic remedies easily procurable, as, for example, the *Centaurea cyanus*, vulgò, "black knobs?"
"State the manner of administering such remedies, their
"modus operandi, and, if any, their success?"

Ans. I have not heard of any domestic remedies being used by the country people; in general they trusted solely to the efforts of nature, removing the infected to some out-house, or erecting a hut for them at the back of an adjoining ditch.

13. "Are you of opinion that the disease has arisen
"from contagion? Have any observations occurred to
"you which might illustrate, 1st, The manner in which
"infection is originated, conveyed, and propagated. 2dly,
"The term during which the contagion may be supposed
"to have remained in a latent state. 3dly, The causes

“ which may be supposed to have called it into action so
“ as suddenly to produce fever? What number of medical
“ persons engaged in attendance upon the sick have died
“ of fever? Specify their names.”

Ans. I am of opinion that the predisposing causes of this epidemic were the scarcity of food, and its indifferent quality, the want of fuel, and the general distress arising from poverty, want of employment, and the increase of population combined. How the disease originated, it is not easy to say. I do not believe it to be of foreign growth. In the different parts of Ireland, which I have visited in my military capacity, I have always met cases of typhus indigenus, if I may use the expression, the birth of our own soil, from which this epidemic has varied little, except in the more constant characteristic of petechiæ, and in its less proportional fatality; but I have no doubt of its being propagated by contagion operating on subjects predisposed to it by the before mentioned causes, and not protected by habits of cleanliness and ventilation. That the contagion has been disseminated chiefly by itinerant mendicants, there cannot be the smallest doubt; the progress of the fever showed it. Very lately I was informed by the Roman Catholic clergyman of an adjoining parish, where some very active measures had been adopted for the expulsion of the mendicants not belonging to it, as well as the support of their own, that, a short time previous to these measures being pursued, he had been called on to execute his clerical functions to twenty-six persons in the last stages of typhus, within one week, but since the operation of the measures alluded to, he had only attended two persons in this state within three weeks. I have not been able to fix any precise limits to the latent period of contagion, being, in general, unable to collect from the sick themselves, how or when they were submitted to its influence; and having

no fever ward or hospital to give me the opportunity of making proper inquiries, with such indifferent means of observation, I shall risk no conjecture on the remaining part of this query. The only medical gentleman to whom the disease was fatal in my neighbourhood was Doctor Feeny, who attended the dispensary at Elphin, about eight miles from this.

14. “ Did the disease extend among the inhabitants of such houses, &c. as admitted of ventilation, and in which due attention was paid to cleanliness?”

Ans. It did not extend among the upper ranks, where cleanliness and ventilation were sufficiently attended to.

15. “ What measures of Medical Police were adopted for checking the spread of the disease, and under what authority? What was the nature of the accommodation and relief afforded to the sick poor?”

Ans. No effectual measures were adopted here for checking the disease. There is no magistrate in this town, nor within two miles of it. I had notices put up in the town, recommending the best steps I could devise for its suppression, and had a good many of the cabins cleaned out and whitewashed, but these were the only measures adopted.

The county infirmary, from which medicine was dispensed to all the sick poor who applied for it, gave the only medical relief in this neighbourhood. A subscription was entered into for supplying the indigent with broth and meal during the summer, and till the harvest was collected in.

I beg again, gentlemen, to apologize for the delay of

this reply, which has been unavoidable from urgent cases, which took me from home in the practice of my profession.

I remain,

Your very obedient and

Faithful humble servant,

R. J. BRADY,

Surgeon, Co. Infirmary.

To the Editors of the Dublin Hospital Reports.

Boyle, Co. Roscommon, June 26th 1818.

TO the 1st query* I have to answer, that a vast number of the labouring poor were out of employment, both when the epidemic fever commenced, and during its continuance. In respect to fuel, I never witnessed so much distress, the poor having no other supply than heath and underwood, which, in many places, they had to carry two or three miles. There was a great want of food; its quality was also so very bad as to render it almost unfit for human support, the grain of every description having suffered so much from the wet and cold of the preceding summer. Under so great a want of those important necessities of life, it may well be supposed the poor were badly clothed. For weeks many were obliged to subsist on vegetable substances, never used as food in ordinary times, such as turnip-tops, and a species of wild kale, which, in this country, is almost entirely applied to grazing cattle. Ther●

* For these queries, see the preceding communication.

is a practice, among many of the feeders, of bleeding their cattle at stated periods, which they consider not only a means of preventing disease, but also of fattening them in a shorter time: and such was the want of food during the last summer, that the blood was carefully collected, and boiled with oatmeal for food, and happy were those who could procure this mess in sufficient quantity.

2. The epidemic began about the latter end of May; and was at its greatest height from the middle of July to the same time in August.

3. It has nearly disappeared in this part of the country: there are still some cases, but not more than we have seen in former years. I attribute the abatement of epidemic fever, in a great measure, to the degree of terror excited in the minds of the lower orders of people, who, considering it as a plague, have latterly much avoided exposure to contagion. I must also give credit to the clergymen of the district, aided by all other intelligent persons, who constantly exhorted the poor to avoid unnecessary exposure; pointing out to them the misery they brought on their families, as well as the injustice they did their neighbours, in propagating and continuing so dreadful a malady.

4. Boyle, with its immediate environs, contains a population of nearly 4000 persons, out of which there were nearly eight hundred cases of fever, many so extremely mild as to require little medical treatment: these cases, added to those within a few miles, that have come within the knowledge of the medical practitioners, form an aggregate of from 12 to 1300.

5. Among the upper ranks, the cases which occurred were few, and in general terminated favourably. Among

those persons who enjoyed the substantial comforts, without the luxuries of life, it was most fatal; many of these were men of robust constitutions, pursuing active employments, and, from this cause, too often addicted to the use of ardent spirits. The very poor escaped best; their symptoms were less violent; debility predisposed them to fever, but the attack was mild in proportion to their previous wants. The deaths may be estimated at one in twenty-eight, taking the entire period of the epidemic: during the first two months not more than one in forty occurred. As the epidemic advanced, the disease became more malignant, of course the deaths were more numerous.

We have no fever hospital.

6. There was a great degree of uniformity in the disease from the commencement. The subjects of attack seemed to produce the principal differences; the plethoric had, in general, great determination to the head or abdominal viscera, and often both combined; when the latter, the liver seemed to suffer most. As the winter advanced, those symptoms were more prevalent, which I am inclined to think arose as much from the disease having crept in among the better ranks of life, as from any remarkable change in the character of the epidemic; for, notwithstanding the severity of the winter, the lungs remained disengaged in at least nineteen out of twenty cases. About that time, and subsequently, many cases, neglected or mismanaged at the commencement, occurring among the same description of persons, extended beyond the most general time of termination, which was fourteen days. Some of the most malignant cases terminated fatally before the 9th day. Relapses were also more frequent among the robust, and often attended with a considerable degree of inflammatory excitement.

7. Dropsical affections occurred in many instances. In the autumn many were affected with dysenteric symptoms, which harrassed them for a considerable time. I have, at this moment, two maniacal patients, in whom the derangement of mind was excited by the previous fever, which they had in February. A mother and son are the subjects of the disease. A vast number were affected with dyspeptic symptoms, which, when unaccompanied with organic disease, soon yielded to an infusion of bark or gentian, with laxative medicines and improvement in diet.

8. We had no dissections, as it would have excited horror in the minds of the people of this neighbourhood to have proposed them.

9. In the mode of treatment I will be brief. As we had no fever hospital, the patients, in general, were confined in their own poor cabins, or in huts erected along the walls through the country, which were the only dwellings for the wretched beggars, who had no settled residence. In many of these miserable abodes, there were 5, 6, or 7 ill of fever, crowded together in filth, without attendance, or any one comfort. I have known cases where the only attendant for large families, all ill of the disease, was one or two children convalescent from fever, still weak and languid. Thus was the mercy of Providence manifested in the preservation of these miserable beings. Under the above circumstances, which are not exaggerated, what aid could medicine, or the most zealous and intelligent practitioner afford?

At the commencement of the epidemic, the disease was so mild, as to require very little medical treatment. On the first applications, I purged freely with jalap and calomel, and then gave, every second day, an infusion of senna with Epsom salts or some mild purgative, as the

case seemed to require; my object being to procure two or three loose stools every day. In many cases, while the patients remained free from delirium, they called for a repetition of this practice, being sensible of the benefit derived from it; and among some very well experienced and useful nurses, it was constantly pursued in those cases, which we were obliged to entrust greatly to their care, where the remote situation of the patients prevented their having regular medical attendance. Where I could prevail, the cold affusion was had recourse to early in the disease; in all cases, frequent sponging the entire surface, particularly the head, with cold water and vinegar, was followed with relief and a desire of repetition. I allowed diluents in any quantity wished for; and attended to cleanliness and ventilation as much as possible. Diaphoretics were seldom given, except those of the very mildest class. Antimonials increased the heat, restlessness, and petechiæ. Early in the epidemic I was led to observe, that not one case in twenty terminated by perspiration. I must say, that I looked upon this class of medicines to be very opposite in their effects to those upon which I placed my chief reliance, namely, purgatives and cold applications to the surface. Opium was rarely used; in cases with marked determination to the head or liver, I deemed it improper; in the generality of other cases it was unnecessary, and injurious from constipation that followed, a circumstance that required to be particularly guarded against, as it uniformly aggravated every symptom. An irritable state of the stomach, sometimes required it in small doses. Blisters were applied with advantage to the nape of the neck, when very great determination to the head had not been relieved by other means; blisters were also useful in cases of fullness and pain of the epigastrium with a torpid state of the liver, which was frequent: I have not known them used under any other circumstances, unless in those cases, which were not numerous, in which fe-

ver was combined with a pulmonic affection. The quantity of wine given to any patient was very inconsiderable; for in many cases, where an apparent debility pointed it out, as a means likely to afford relief, I was disappointed in my expectations, and obliged to discontinue it. Bark was given only when the patient was in a state of convalescence, and combined with sulphuric acid. I have tried gentian and quassia in the same state, and found them nearly as useful as bark.

11. At the commencement of the epidemic, scarcely any case required blood-letting, or would bear it; the subjects of attack being half starved miserable paupers, with the disease extremely mild. As the season advanced, when the disease attacked the robust and well fed, blood-letting was had recourse to, in several cases, both from the arm and the temporal artery (in some cases leeches were applied). Where the determination to the head pointed it out as necessary, and in general with decided advantage, I have had twelve or fifteen ounces, sometimes more of blood, taken at one bleeding, early in the disease from robust subjects, and never had reason in a single instance, to regret it; in some cases a repetition of the bleeding became necessary, seldom to the same extent, as when a considerable effect was produced by the first bleeding, the symptoms became more mild, or if I may use the expression, the fever became a general disease, with less of determination to any particular part. I have known this practice carried to a great extent among the poor, without advice, and not followed by those dangers we were formerly taught to apprehend. They denominate every attack of fever a pleurisy, for the relief of which, the only remedy they conceive necessary is bleeding from both arms, and then to keep up the balance of circulation, as they suppose, or from some such idea, they think the safety of the patient depends upon taking blood from

both feet. After these very large bleedings, with a total disregard of any other means, the disease is protracted, and the recovery tedious. Blood-letting was practised principally in those cases attended with determination to the head or abdominal viscera, the liver being the viscus most engaged. Pulmonic affections were very rare; in the few that did present themselves, V. S. was practised with advantage. I have not seen blood-letting tried in the advanced stages of the disease.

12. I have not heard of the employment of the "black knobs," nor any other domestic remedy in this district.

13. Upon the abstruse subject of contagion, I feel reluctant to say much; however, I can have no hesitation in declaring it as my opinion, that fever was spread and maintained in this district by contagion, but I must suppose it took its rise from the many and great wants of the poor, the principal of which was the extreme bad quality of their scanty meals, as well as the deficiency of fuel and clothes, assisted by a very bad and changeable season. In the middle of June 1817, or a little earlier, a soup-shop was established here by subscription, where soup was daily given out to one thousand persons, who, naturally anxious to procure it in time, crowded together during its distribution, though every pains were taken to keep order amongst them. From the 16th to the 23d of that month the weather became suddenly and unusually hot, and the disease, about that period, spread rapidly among those persons, the greater number of whom attributed the origin of their complaint to attendance at the soup-shop: among that crowd, many of whom I have seen faint from absolute want during exposure to the sun, whilst waiting for their supply of soup, there were persons from houses where the disease existed, whose tatter-

Contagion
Highly contagious
at times

ed garments probably retained a dose of infection sufficient to produce and propagate the disease. I cannot distinctly state the term during which contagion may have remained in a latent state, the periods of attack were so various after exposure. It seemed called into action by those causes described by many authors on the subject, such as great anxiety, fatigue, &c. It was also observed to increase after any great fall of rain. The medical men here escaped the disease. Two young men attending the apothecary department of our dispensary got fever; both recovered, though their cases were severe.

14. The disease appeared in some families who paid strict attention to cleanliness and ventilation, and who, not only during the epidemic, but at all times, lived with great regularity. In those cases it was mostly confined to one or two individuals of the family, the size and comfort of their houses allowing apartments to the sick, by which all communication with the healthy members was prevented.

15. As the disease was very much spread by beggars many of whom came from distant parts of the country, and crowded in here with the hope of receiving relief from the soup-shop, our respectable borough master, supported by the united exertions of the inhabitants, has been obliged to resort to the apparently harsh measure of banishing from our town all vagrants who are not regularly badged; which badge they receive on a certificate of some respectable inhabitant, that they have either been born in the parish, or have lived long enough in it to be considered naturalized. The badge they are obliged to wear. The inhabitants have also endeavoured to enforce cleanliness and ventilation. Whitewashing with lime all the cabins in the neighbourhood was done without trouble or expense to the owners. We have also pro-

posed annual premiums, independent of the premium of health, to such poor persons as keep their houses in the neatest and cleanest order. We had no other accommodation to afford the sick than what their own poor cabins presented, or the huts already described, against walls, ditches or banks. From a considerable fund, formed by the liberal donation of Lord Lorton, (the lord of the soil) assisted by the neighbouring gentry and inhabitants of the town, together with a sum received from Government, the necessary nourishment and wine was afforded to a vast number. Medicine was given at a dispensary which was on a very extensive plan, and established here and supported by the same persons. Lord Lorton also distributed a vast number of blankets among the convalescents.

JOHN D. VERDON.

*To the Editors of the Dublin Hospital Reports,
In reply to the second set of Queries.*

Ballina, May 20th, 1818.

IN reply to the Queries received from the Editors of the Dublin Hospital Reports, respecting the fever which prevailed epidemically during the last autumn, winter and spring in this country, Dr. Faussett, begs to transmit the following observations, accompanied with his regret that circumstances would not allow him to make as satisfactory a report upon several of the questions as he could wish.

1. Great numbers of the labouring poor in this neigh-

bourhood, were out of employment in the months of July and August, when the fever began to prevail extensively in this town and surrounding villages. The fuel was then abundant, but the food scanty, and in many instances consisting chiefly of raw and boiled herbage, which grew wild in the fields: the principal articles of this kind were borage and wild mustard. The clothing of many, particularly of all the vagrants, was ragged.

2. The epidemic was at its height, in the town, in September; but very many cases of it occurred in the succeeding three months, and occasionally, since then, a few cases of it have been observed. Within the last eight days he has seen four or five cases. It is difficult to ascertain in what month its attacks were most general in the baronies of Tyrawley, Gallen and Teneagh, or the adjacent parts of Mayo and Sligo, as it raged and declined successively, almost through every village of this extensive district, during the last eight months.

3. It has abated considerably in frequency, and has inclined to diminish in severity since the beginning of March, though this abatement, as to violence in the symptoms, cannot be said to hold good in four of the cases, which have fallen under his consideration within the last week. This great decline may be chiefly ascribed to the cold, harsh, drying winds which prevailed in this month, though the wettest March in general known for many years in this country. By these boisterous winds the habitations of the poor were more thoroughly ventilated, and the foul contaminated stagnant air of their apartments thereby dissipated. In like manner, their persons and wearing apparel were exposed to the same salutary purifying influence.

5. The rate of mortality among the upper ranks has

been greater, and the symptoms throughout the disease were much more severe than amongst the poor, but particularly where the subjects, when in ordinary health, were in the habit of drinking freely of wine or diluted spirituous liquors after dinner. There is no fever hospital or dispensary in this town.

6. The mortality within the last year, ending March 31st, has been greater than in the preceding three years, but no exact register has been kept.

7. The head and liver seemed to be the organs most frequently affected during the autumn and winter. During the spring months, a greater determination took place to the lungs than on the two preceding seasons. The usual crisis was by the bowels and skin, and occasionally, a considerable bleeding of the nose took place, with amelioration of the symptoms, but without proving critical. The duration of the disease was, in ordinary, fourteen or seventeen days, but sometimes it terminated about the ninth, and in other instances it was protracted beyond the twentieth day. A few cases of it proved fatal, between the eighth and tenth days; but he did not hear of any deaths occurring at an earlier period, in consequence of fever. In some cases it was cut short within a few days, when early attendance was given. The relapses were few, and might be traced to an unguarded exposure to cold, or an intemperate indulgence in the use of food.

9. The prejudices are so strong against dissections in this country, that none were made. There were strong grounds for presuming that an effusion took place in the brain in many of the fatal cases.

10. The most successful mode of treatment consisted

in the exhibition of an emetic at the commencement, in opening the bowels freely, and keeping them open throughout the disease by the exhibition of purgative medicines, such as a few grains of calomel combined with half a drachm or two scruples of compound powder of jalap, with the occasional addition of a few grains of scammony; or an infusion of senna with sulphate of magnesia and manna with cinnamon water, and also injections. Shaving the head, sponging it and the neck with cold water and vinegar freely and frequently, light cooling acid drinks, cold water, cool air, the application of a number of leeches to the temples, or opening the temporal artery; when the head was much affected, a general bleeding from the arm of ten or twelve ounces at a time, an evacuation, which even some delicate females bore very well, and required a repetition of to the same extent, when the head was much engaged, and the pulse full and frequent. In every instance where the use of the lancet was deemed necessary, it procured great relief to the patient, and an obvious moderation of all the symptoms. He has witnessed, however, the melancholy consequences of its having been carried too far by country quacks, who are in the habit of bleeding from both arms and both feet, in order, as they say, to balance the blood; a prejudice which it is very difficult to conquer. The practice of blood-letting, particularly when fever occurs in spring, he has found to be for many years past not only salutary or beneficial, but a remedy which could not be dispensed with in some cases, after the most active trial of every other evacuation. In a few of these cases where diaphoretics and purgatives were pushed to a great length, the most alarming hæmorrhage by the bowels has set in, and after the loss of several quarts of blood in this way, with a pulse scarcely at all to be felt, a reaction has been known to take place, and one or two bleedings from the arm, to be called for by the

hardness of the pulse, pain of the head, delirium, &c. and to have produced the happiest consequences. As to the extent of the quantity to be taken in any case, this must be regulated by the constitution of the patient, the severity of the symptoms and the season of the year. It should be carried to the softening of the pulse, and the alleviation of pain wheresoever situated.

In some cases it may be sufficient to take away ten or twelve ounces, in other instances forty ounces of blood have been drawn before the symptoms have been permanently moderated. In some of these cases the blood was highly buffy after a second bleeding, though not after the first. Blood-letting has been carried to the extent of between thirty and forty ounces in three of the cases, which he has attended within the last eight days, one of whom he saw in the evening of the second day, the second, in the afternoon of the third day, each having previously taken an emetic and a purgative, with very little abatement of the symptoms. The third he did not see until the tenth day. In this last case, the blood first taken away was highly buffy, and the head immediately relieved by the operation. The man visited on the second day appeared free from fever the next morning after he was bled, but having sat up on the next day and shaved himself, all the symptoms returned. He was bled twice afterwards, and his bowels smartly operated on. He was free from fever. The other two were considerably better. He cannot exactly state the number of cases in which this remedy was adopted; but he considers it to be a most important remedy in many cases of common continued fever, or of the fever which has lately raged over the whole island.

In the advanced stages with great debility and spasm,

wine, either Sherry or Madeira in moderate quantities, was administered in many cases with great benefit. Good musk, to the extent of ten or twelve grains in each draught, was found a safe and excellent anodyne and antispasmodic. In this stage of fever a mixture composed of six or seven ounces of camphorated mixture, and an ounce of spirit of nitrous ether in the dose of a table spoonful every third or fourth hour, was given with advantage. Opiates were tried in a few such cases as were most favourable to their exhibition, where the head was disengaged and the bowels freely opened and the patient restless; but in no instance were their effects so salutary as to induce him to set them down amongst the useful remedies in fever, particularly in that lately epidemic. They should be given with the utmost caution.

12. Has no experience of the use of black knobs, or other domestic remedies. He tried barm some years ago, and laid it aside again.

13. He is of opinion that the disease has arisen from contagion, but that many causes have concurred to favour its spread and operation; such as cold, wet, impure air, ragged filthy clothing, depression of mind, want of food and the ordinary comforts. From a thousand to twelve hundred of wan, meagre, squalid beggars, resorted to the soup shop in this town during last summer. The greater number of these were from the country, to which they returned, as soon as the public supply was discontinued, carrying with them the fomes of contagion from some of the hovels, where they crowded together at night during their stay in town, and some of them might have carried it into the town, having previously wandered through the whole country. The close moist weather of July and August might have brought

contagion into action. No medical men died of fever; two only had the disease.

14. He has not attended in any family where the disease extended to a second person, in houses which admitted of free ventilation, and where due attention was paid to cleanliness; but the checking of this extension he is inclined to attribute as much to the constant fumigation of the apartments with a mixture of hot salt and sulphuric acid, as to ventilation and cleanliness.

15. No measures of medical police have hitherto been adopted. He will thankfully receive any code of instructions, with the view of preventing the extension of the disease, which may be conceived to be beneficial.

Hollymount, May 27th, 1818.

IN addition to the report which Dr. Faussett had the honour of sending to the Editors of the Dublin Hospital Reports, on the 20th instant, he has to state, with regard to the fourth case of fever, as recently occurring in the town of Ballina, that he did not visit the patient until the sixteenth day of his disease. Upon inquiry, he understood that no medicine had been given except a daily injection, and that he got the ordinary drinks, such as whey and barley water. The symptoms were general headach, skin very hot, the face and whole body in a profuse perspiration, the pulse 124 in a minute, and of moderate strength, the tongue clean and dark red; he had a shivering fit some short time before. He was ordered four grains of calomel and half a drachm

of the compound powder of jalap, which operated briskly several times. In a few hours after he appeared much better in every respect, felt no headach, the skin was cool, the pulse not more than ninety in a minute. On the 17th he was more feverish, the pulse beat 120 and small, the tongue was furred, the countenance pale, had some shivering in the night, the stomach was sick, and he vomited two or three times that morning. He was directed to take the camphorated mixture, with spirits of nitrous ether, which agreed well with him; had several stools in the course of this day. In the evening his countenance appeared better, his pulse more moderate, and all the symptoms more favourable. On the 19th there was an aggravation of the disease; the headach intervened, the pulse became more frequent, and in the course of the evening he passed about two pounds of blood by his bowels. On the 20th symptoms were moderate; he took a dose of castor oil. On the 21st he was nearly free of fever, and since that time he has been convalescent.

The fifth case was that of a little boy, nine or ten years old. He lost no blood, either naturally or by artificial means. He got three doses of calomel and jalap, and was free of fever about the ninth day.

A sixth case, of an adult female, fell under the consideration of another physician in the town. He treated her on the antiphlogistic plan, and gave occasional purgatives; her pulse was 120, and small, which deterred him from the use of the lancet. Her friends, however, finding she was not getting better by this plan, had her bled privately, without the knowledge of the attending physician, and the next day, very much to the surprize of this gentleman, he found his patient free from fever, which

happy change he confessed he ascribed to the use of the lancet.

No new case of fever had occurred at Ballina when he left it on the 25th instant.

Dr. Faussett saw, with no small degree of surprize, in a statement from the Select Committee, that there was no report whatever from the county of Mayo of the state of fever. A regular answer, however, was forwarded through Colonel King of Ballina, to Doctor Perceval, to the several queries which accompanied his note to the Colonel, by Dr. Faussett, in two days after the receipt of the queries.

TO DR. BARKER AND DR. CHEYNE.

Monivae, August 7, 1819.

GENTLEMEN,

I have been favoured with your letter, and feel great pleasure in communicating the circumstances relative to the late typhous fever, that have come under my observation.

The dispensary which I attend is situated in the small town of Monivae, and has been established for the purpose of affording medical assistance to the tenantry of a few gentlemen residing in its neighbourhood, and consequently it embraces a district extending some miles in circumference, the population of which, has never, I believe, been ascertained; but to throw as much light

as possible on the subject, I will make a rough calculation: and in answer to the first question, say:

1. That the district appertaining to the dispensary may contain a population of between 3 and 4000 souls.

2. That the number of patients entered on the dispensary books, from the commencement to the termination of the epidemic, was 473.

3. That those 473 patients remained in their own homes, where they were attended by me regularly, and furnished with medicines, &c. during the continuance of their illness.

4. That the number of relapses was very few, scarcely exceeding five or six of these 473.

And fifthly, That of these 473 cases, the number of casualties was thirty-two, making a proportion of about 1 in 15.

Hence it will appear, that the number of typhous cases that occurred here, was in proportion to the population as one to ten.

Typhous fever made its appearance here among the lower classes at the beginning of the year 1817. I can not exactly say, whether it originated spontaneously, or was imported, but am inclined to think the latter. From what I have observed, I may venture to say, that chief of the predisposing causes inducing susceptibility of the contagion was loss of mental energy. In this country the poor man, whose existence, in a great measure, de-

depends upon the success of his crops, found that by the great deficiency in the harvest of 1816, he was deprived of the usual supply which enabled him to support his family and pay his rent, and that his only alternative, when this supply was exhausted, would be begging. This idea constantly operating, induced a depression of spirits, which led to a total want of energy, and almost an indifference to life; this, assisted by a loss of bodily vigour, from the consumption of the large wet lump potato of that year, rendered him more liable to receive the contagion of fever than at any former period.

To the foregoing causes therefore, I chiefly attribute the continuance of the epidemic here, for after the succeeding harvest of 1817 had insured a plentiful supply, I observed that it considerably decreased, and whatever cases did continue, were attributable to these causes, and not to any new contagion.

I have had frequent occasions to observe, that people who were in comfortable circumstances, and consequently not assailed by those depressing passions alluded to above, and who attended to the ventilation and cleanliness of their houses, were very seldom martyrs to this disease, and even where it visited such houses, that it very seldom attacked the remaining inmates, in support of this, I need only mention the charter school of Monivae, which I attend; it contains one hundred children, among whom the epidemic made its appearance, but of these only seven were attacked by it.

I am aware that numberless instances of the rich and wealthy being victims to this disease, form examples in opposition to my doctrine; yet in some of these cases, unnecessary exposure to the contagion, and in most others, fear or dread of it have been the predisposing causes, for

what passion is more calculated to produce a loss of mental energy than fear?

In a country where there are only a few resident gentry, at a great distance from the cabins of the poor, it is not expected that I can impart any instances illustrative of their alarm at the commencement of the epidemic, but I must say they were all attentive to the wants of their tenantry afflicted by it; supplied them with every necessary during illness, and, when convalescent, did not let them want for nutritious diet:—in a word, they were extremely attentive and humane to their sick poor.

In all the instances of the disease, coming under my observation, the type has been nearly the same: all have been attacked in nearly the same way, with the usual train of symptoms. I have been often tempted to try blood-letting, in the first instance, but have not found it successful, as it generally increased the debility incidental to the termination of the disease; nor have I found the indiscriminate use of emetics, as is usual at the beginning, serviceable, excepting where there have been evident symptoms of nausea, &c. The purgative plan, which I latterly adopted to a large extent, has been with me invariably successful, when assisted by frequent sponging of the body, the antiphlogistic treatment, and particularly cleanliness and ventilation. It is my opinion, the more simple the treatment the more readily will the disease give way.

Very few know the real situation of the poor in the interior of the country, and the miseries and privations they endure, which are augmented tenfold when attacked by illness, during which they have nothing to lie on but a bundle of straw, an old blanket to cover them, only wa-

ter for drink, and potatoes (very happy if they have them) as food; and if attacked by a contagious disease, deserted by all. But to give an example:—a family, consisting of a man, his wife, and two children, in this neighbourhood, were, during the continuance of the epidemic, attacked by it. It was so dreadful a fever that no persuasion or sum of money would prevail on any to tend, or even to go into the house: in this state they were left to perish. I went to them, administered the medicines, and thought I perceived an amendment. At this time an officious person came to the window of the sick room, and told the man that he would, upon his recovery, be sent to gaol, and probably hanged, being suspected of horse stealing. This had such an effect upon him that he died on the same night, and his wife, nearly convalescent, was so terrified with his corpse in the same bed with her, that she relapsed, and died in two days after: the children recovered from fever, but the eldest of them lost his senses by the fright. It is scarcely necessary to mention, that every thing possible was done to avert the fate of these unhappy people, but in vain. Many other wretched scenes have I witnessed, which would be too tedious to relate.

Suffice it to say, they suffered much, but bore it with fortitude: struggled with privations without murmuring, and encountered great distresses, without much repining. If some plan be not struck out for their melioration and benefit, any future epidemic will spread its devastation with the same facility as the last did, whilst they continue to exist in the same squalid, wretched, and filthy condition as they do at present.

I am sorry I cannot afford many instances illustrative of fearless exposure to the contagion, being myself the only person engaged in attending the sick, and from what I have already said, it may be surmised that

there was no great necessity for adopting precautions to prevent communication, as none ventured near the infected house. Lastly, as to affording information relative to any epidemic anterior to the year 1817, it is out of my power to do so, as it was a little before that time I came to this country to take charge of the dispensary; but, as far as I recollect, I do not think that there was any.

Hoping that this very imperfect sketch will prove acceptable, I have the honour to be,

Gentlemen,

Your very obedient and

Humble servant,

H. E. M'CARTNEY.

SECTION II.—PART III.



Armagh, August 31st, 1818.

TO THE EDITORS OF THE DUBLIN HOSPITAL REPORTS, &c.

IN REPLY TO THEIR FIRST SET OF QUERIES.



GENTLEMEN,

I HAD the honour of receiving your communication of the 20th instant, and hasten to lay before you as much information on the subject of the present epidemic as my experience in the disease enables me to do.

In reply to your first query, I can most fully answer in the affirmative. Never since the year 1800 has there been an epidemic so widely extended, or so fatal in its consequences.

The disease, in this neighbourhood, began so early as the month of December, grew very prevalent as the spring

advanced, and has increased so much during the summer that it has at present arrived to a most alarming height.

The chief peculiarity of the fever, as it appeared here, was an apthous appearance of the tonsils and soft palate, generally accompanied by much swelling, and extending sometimes over the entire fauces. It did not seem to require any very particular treatment besides the use of stimulating gargles, and usually subsided as the other symptoms of fever began to decline. Retention of urine was another symptom, which I have frequently observed. It appeared, for the most part, when the disease was beginning to decline, and yielded in almost every instance to the use of irritating enemata.

The principal organ affected was the brain. The lungs were engaged in two instances only, which came under my care, and did well by the assistance of moderate bleedings. Pain of chest, cough, and difficulty of breathing, were the symptoms. In one case only was there an inflammatory affection of the liver, and this was the only instance of disease of the abdomen which I have seen. But all these were trifling affections, when compared with those which marked the existence of excitement in the brain. In those cases in which they appeared, headach was present from the commencement; the eyes were red and shining; face flushed, and in a few days there appeared delirium; the patient raved violently, made strong exertions to get out of bed; subsultus soon took place, and coma, with which, at length, the scene generally closed. This strong excitement of the brain was not observed among the poor; those in the better classes, who had lived well, and were of full plethoric habits, were its most frequent subjects, and unhappily, in almost every instance, fell victims to its violence. This severe affection of the

head did not appear, however, in every case; the symptoms were sometimes milder. It has been frequently averted, in cases which came under my care, by early and frequent bleedings; and so convinced am I of its inflammatory nature, that I have immediate recourse to the lancet whenever I observe the least symptom that threatens strong excitement or delirium, and with the most complete success.

There were few cases of this fever unaccompanied by petechiæ. They appeared on the neck, breast, and arms, in great abundance, and looked very much like flea bites. Each spot was perfectly distinct, with very little surrounding redness. Their colour was either dark or red, in proportion as the circulation grew languid or vigorous.

This fever has not been very uniform in its symptoms and progress. Earlier in the season it was more frequently attended by catarrhal symptoms than at present. In some cases there were symptoms of strong excitement; in others, of great apparent debility; I say apparent, for although the patient from the first attack of fever, and during some of its progress; lay constantly on his back, and could make no exertion, nor give an answer to the questions proposed to him by his attendants, yet on the use of free evacuations, especially by the bowels, the pulse rose, the strength increased, and the patient felt greatly refreshed, and at length, did well.

Some were carried off by violent affection of the brain; others seemed to sink from real debility; those, especially, that were advanced in life, and were among the upper ranks of society.

The duration of this disease was, in general, from

eleven to twenty days. The crisis took place very gradually, and was not attended by any very sensible evacuation. A cloud in the urine, and the pulse becoming slower, marked its commencement.

I have not observed convalescence to be interrupted by symptoms of catarrh or dysentery, nor were relapses frequent. These might be attributed in general to the patient, on finding a return of health, indulging his appetite too freely.

11. Previous to the appearance of fever there was no unusual sickness. After it had broke out, there were observed a few solitary cases of scarlatina, and one accompanied by putrid sore throat, I myself, attended. Variola prevailed very much during the spring and summer, and caused great ravages and mortality among the poor. Measles, too, were sometimes noticed.

12. In regard to the relative proportion of males and females affected by the disease, I believe the former had the larger share.

13. Among them, too, the mortality I think was rather greater. Among the upper ranks, all that have been attacked have died. The poor do wonderfully well, not one case out of thirty terminates unfavourably. I have not heard that the troops have suffered much from this complaint, owing perhaps, to their being few in number.

14. *23d September.* I am sorry to say, that the epidemic does still exist, and that new cases are occurring daily. The symptoms begin evidently to indicate the existence of biliary derangement.

15. The disease in this place originated among the poor. It seems to me to have been produced by the badness and scarcity of provisions, added to the want of fuel. In this last respect, the poor, from the great severity of the last season, suffered greatly; for turf, the principal fuel they burn, was spoiled by the excessive wet. In consequence of this want, the inhabitants of every cabin crowded into their smallest apartment, where a breath of pure air was never admitted, and where, of course, infection must have been soon generated, and which needed no high degree of virulence to affect very speedily their starved and debilitated bodies. To these causes may be added, the very warm weather which came on early in the summer, or in the latter end of spring, and this operating on the soil then so fully saturated with moisture, must have caused something of the same mischief as the marsh miasmata.

16. The disease is extremely infectious. It spreads frequently through all the members of a family; and I have known one instance in which, not only every individual of a large family was successively attacked, but also every one of the friends who had entered into the house were at length, seized by it. The complaint, however, is not so infectious among the upper ranks.

17. There have been no measures yet adopted, by the inhabitants of this town, to arrest the progress of this dreadful malady. It was not till last week that a meeting took place, to consider the propriety of establishing a fever hospital.

In reply to the 18th and last query, I believe I may answer in the negative.

And now, Gentlemen, I must apologize for the delay of my communication. I have been so frequently interrupted when I sat down to write, and my mind has been so much distracted by the unusual number of cases that came before me, that I could not sooner collect my thoughts on the subject. I hope however, before very long, to communicate my sentiments more fully, and to lay before you a statement of the remedies which I have found most successful in combating this formidable fever.

I remain,

Gentlemen,

Your very obedient servant,

WILLIAM RYAN.

TO THE EDITORS OF THE DUBLIN HOSPITAL REPORTS, &c.

In reply to the second set of queries.

Armagh, May 15th, 1818.

GENTLEMEN,

I HAD the honour of receiving your communication on the 7th instant, and proceeded to lay before you such information on the interesting subject of the prevailing fever, as my experience furnishes. In reply to your first query, I beg leave to state that, at the time when the disease made its first appearance, a great many of our labouring poor were in want of employment; they were badly clothed, and, owing to the very high price of provisions, were very scantily provided with food; so great indeed was the general distress, that many were obliged to satisfy the cravings of hunger by using bran and pollard from the mills, boiled nettles, the refuse and stalks of kale, &c.; and, from the scarcity of fuel, even these

wretched articles of food could not be properly prepared for use.

The epidemic in this town seemed to have reached its height about the latter end of last October. After that period it began to abate rather rapidly, and for the last three months but few cases have occurred. But I must here observe, that, during the last fortnight, the complaint has returned in a slight degree, and in one instance proved fatal; and I have also been informed that, in a certain district of country, extending from Loughgall to Lurgan, it has broken out afresh, and with symptoms of considerable severity. This, however, I cannot certify from personal knowledge.

I am at a loss to assign any adequate cause for the abatement of fever which took place in Armagh; perhaps the exertions of the medical gentlemen among the poor affected with the disease, may have had considerable influence in this respect. The hospital not being sufficient to accommodate the one-fifth of the number sick, the town was divided into four districts, and each of these was regularly attended by one or two physicians, who prescribed the proper remedies, and took care to have the houses thoroughly ventilated and whitewashed, the beds frequently supplied with fresh straw, and every useless or foul matter removed or burnt.

As to the proportion in which the inhabitants have been affected by the disease,—our population, at the period the last census was taken, amounted to about 8000, the number affected at the same time, when the epidemic was at its height, could not be less than 200.

The rate of mortality among the upper ranks has been very great; as well as I have been able to learn, taking

in the whole number of the respectable inhabitants who were affected throughout the entire course of the fever, it has been in the proportion of one fatal case in three. Among the poor labourers, however, it has been very different, not more, I believe, than one in forty. In the poor district which fell under my care, I attended 200 individuals, who were seized with fever between the early part of October and the latter end of January. Of these, five only died. The mortality in the other districts, as I am informed by the medical gentlemen who visited them, was nearly in the same proportion. I was lately favoured with a very accurate statement of the entire number of cases of fever, which occurred in a country parish not far from this, in which it appeared that the number of persons affected amounted to 1009, and of these 64 died, which gives a proportion of one fatal case in fifteen. The subjects of the attack were the poorer class of farmers.

In reply to the 6th query, I have only to say that I have not had an opportunity of ascertaining the average mortality of this parish for the last few years. Hoping, however, to form a tolerably good conjecture on the subject, I have examined the funeral register of our cathedral, to which is attached the principal burying ground of the parish, and the following is a statement of the number of funerals which took place during the last three years:—

From Jan. 1, 1815, to Dec. 31	...	247 funerals.
—— Jan. 1, 1816, to Dec. 31	...	312 do.
—— Jan. 1, 1817, to Dec. 31	...	571 do.

In the progress of the epidemic I did not observe that the disease underwent any very considerable change, with respect to the organs chiefly affected. The head

was the principal seat of mischief through the entire course of fever, though latterly there appeared some cases, where the organ that seemed most engaged was the lungs. Towards the end of autumn and beginning of winter, I have seen some cases with symptoms of great excitement of the biliary system, such as pain of the right side, bilious diarrhœa, sometimes jaundiced colour of the skin.

The most serious of the morbid sequelæ, though happily not of very frequent occurrence, was mania. In some cases it was permanent, in others but of a few weeks duration. Mortification of the toes and feet supervened in a few instances among the poor. It took place generally about the time of crisis, and in general retarded very much the recovery. Anasarca sometimes appeared during convalescence.

With regard to the plan of treatment, I have to observe that, in the case of the poor, little else was required than to administer a few doses of some purgative medicine, with proper attention to ventilation and cleanliness, and in the latter stages, gentle support from wine; whilst in the case of patients among the higher classes, I have generally found it necessary to have recourse to some of our most powerful antiphlogistic remedies. I shall first briefly advert to the mode of treatment, which I have used in the more simple cases, accompanied by visceral inflammation. If called in to visit my patient the first or second day of the disease, I prescribed an emetic of 20 grains of ipecacuan, which was followed by a brisk purgative of calomel, either given alone, or combined with jalap, cathartic extract, or any other aperient which the circumstances of the case might seem to demand. It was found highly necessary to keep the bowels well opened by the regular use of such medicines as

these, throughout the entire course of the disease. At the intervals between each dose of the purgative I directed the frequent use of an effervescing draught, which the patient always found most grateful and refreshing. I have sometimes added antimonial wine, but have never seen it promote perspiration; indeed, I have never seen any efforts to induce diaphoresis attended with the least advantage. The strictest attention to ventilation was always necessary, and I insisted on the patient's attendants keeping the door and windows of his bed-chamber open, night and day. I found it but seldom necessary to have recourse to the cold affusion, except in children, in whom the temperature of the skin was generally very high; but in the case of adults its use was rarely indicated, as in them the heat of the surface was not greatly increased beyond the healthy standard.

Frequent sponging of the face, arms, and breast, with vinegar and water, either cold or tepid, I have always found highly useful in abating febrile irritation, and in promoting sleep. But I must now make mention of those instances of the disease which required the exhibition of the most active remedies. Observing the number of fatal cases which appeared early in the course of the epidemic, I was led to think, that the common mode of treatment was totally insufficient to arrest its progress. From the history of the symptoms that attended those unfortunate cases, which I received from others, (not being myself in attendance) and from what I began to observe in my own practice, I soon formed an opinion of the inflammatory nature of the complaint, and that the brain was the organ principally affected. This was clearly evinced by the symptoms, such as violent pain of the head, throbbing of the temples, red eyes and intolerance of light, early delirium, which, if the disease

was not soon subdued, was quickly succeeded by subsultus, coma and death. To prevent this dreadful train of symptoms, I had recourse to blood-letting, and am happy to say that this remedy exceeded my most sanguine expectations. Whenever, in any instance of fever, there appeared evident symptoms of excitement in the brain, and that these remained unabated after the evacuation of the primæ viæ, I opened the temporal artery without further delay, and took away blood to the extent of ten or twelve ounces. One bleeding was sometimes sufficient to remove the pain of the head and prevent impending delirium; but generally two were necessary, and even more. With respect to the quantity of blood extracted at once, I have never exceeded twelve ounces at the first evacuation, or six or eight at the second or third; and I have further to remark, that I have never drawn blood from the arm, as this mode did not appear to me to possess equal advantages. This remedy I have invariably found most serviceable in the earlier stages of fever, though I have sometimes used it with advantage, so late as the ninth day. After this period, the structure of the parts affected must have been so disorganized, that few remedies would have been availing. I do not now recollect the exact number of instances in which I have drawn blood, but they were numerous, and I hope, as soon as I have leisure, to send for insertion in your work a few of the most interesting cases which have occurred to me, in which that evacuation was followed by the most happy results. The remedy which, in severe cases, I have found next in efficacy to blood-letting, was calomel. I prescribed it in such quantities as not only to secure its purgative effect, but also its mercurial action on the system, and as soon as this took place and the mouth grew sore, I have never been disappointed in my expectations of recovery. My attention was first directed to this medicine as it were by mere accident, having ex-

hibited it in a case of a lady, who was seized with the epidemic at its very first appearance here, merely with the view of opening the bowels; but from peculiarity of constitution, the calomel affected the mouth so completely that salivation was the result; and the second day after, I was agreeably surprised to find that the fever had disappeared. As auxiliaries to these means I have very frequently used cold applications to the head, sometimes blisters to the back and nape of the neck, and fomentations to the lower extremities.

I have now detailed, as fully as my time would permit, that mode of treatment which I have found most successful in combating this dreadful malady; and as a proof of its efficacy, I have further to state, that among 29 patients,* the number of those in the upper ranks whom I attended from the commencement of the attack, there occurred but two fatal cases, both in the persons of gentlemen advanced in years, and which circumstance seemed to me to preclude the use of any vigorous remedy. The case of one of these gentlemen (the late Rector of Kilmore) was very distressing, as he obstinately refused taking any medicine almost from the beginning of his illness.

Three medical persons here, Surgeons Barclay, Cowan and Quin, were attacked by the epidemic, but all recovered. I have reason to think, if those engaged in attendance on the sick were more cautious in not swallowing their saliva, that there would be fewer attacked by the disease. It seems to me that it is by the medium of the saliva that infection is received. That it is taken

* In this number I do not include three or four unfortunate cases, with which I was only so far concerned as to be called in to visit only twenty-four hours before dissolution.

first into the stomach would appear, both from the reactions which occur in that organ at the very onset of the complaint, and also from the good effect of an early emetic.

The disease very seldom extended among the inhabitants of such houses as were well ventilated, and in which proper attention was paid to cleanliness.

In the former part of my letter I believe I have already replied to your last query. With respect to queries 9, 12, 13, I regret to say, I have nothing to communicate. I have therefore only to conclude this, I fear, already too extended letter.

And have the honour to remain,
Gentlemen,

Your faithful humble servant,
WILLIAM RYAN.

TO DR. EDWARD PERCEVAL.*

Newry, September 10th, 1817.

DEAR SIR,

IT would afford me much satisfaction could I have it in my power to promote your liberal views, by throwing

* At that time one of the Editors of the Dublin Hospital Reports.

a ray of light, however feeble, on the nature of the very formidable epidemic, which has prevailed here, more or less, for at least fifteen months. Under that impression, I shall proceed to answer the queries in the order in which they are proposed.

1st. During the preceding summer and subsequent winter the cases of fever were not numerous, but since the month of March last, the disease has increased in a very alarming manner.

2d. The unusual prevalence has been observed since the period just stated. When the disease was at its height I am unable to state. I doubt whether it is not even now increasing.

3d. It does not occur to me that there has been any very marked peculiarity in the form of the disease to distinguish it from typhus, as we usually observe it.

4th. I think the organs in which the effects of fever were most observable were the brain and the alimentary canal. The symptoms denoting affection of the brain were confusion of thought, headach, flushings of the face, sometimes inflamed eyes, and in the more advanced stages, delirium and subsultus tendinum, and in several instances, coma. The symptoms marking affection of the alimentary canal were nausea, loaded tongue, very frequently tension and tenderness of the abdomen, always relieved by alvine evacuations, which it was necessary steadily to keep up by moderate laxatives, given at short intervals. The dejections were generally dark coloured, very fetid and slimy in the beginning, and after the use of laxatives for two or three days, they usually became highly bilious. I have not observed tormina, tenesmus,

nor bloody stools. Of late I have not observed pulmonic affection in more than three or four instances. In one of these the inflammatory symptoms ran so high, there was so much tenderness in the hepatic region, and so much pain excited by full inspiration, that copious bleeding became necessary. This case, so inflammatory in its commencement, put on, during its progress, the typhoid form very completely, and was attended with numerous petechiæ,; a large quantity of pus was suddenly thrown up, the expectoration of which still continues. Catarrhal symptoms were more frequently observed during the winter and spring. At present they are not usual.

5th. The disease was, in almost all instances, attended with numerous petechiæ.

6th. According to my observation, there has been considerable uniformity in the symptoms and progress of the disease through the whole course of the epidemic.

7th. I conceive the mean duration of the disease to have been, in general, 14 days. Sometimes it was more protracted.

8th. The mode of crisis was not, in general, strongly marked, but consisted rather in a gradual abatement of the symptoms, which abatement was, for the most part, very observable on the 14th day.

9th. In no instance did I meet with any interruption of convalescence from either catarrhal or dysenteric symptoms.

10th. Neither did I meet with any instances of relapse, at least in the better ranks of life.

11th. The only remarkable concurrent disease has been a malignant epidemic small-pox, which, in a great number of instances, has attacked children and young persons who had undergone the vaccine inoculation. The present occasion is not adapted to the discussion of that subject. I shall merely observe that, in one family of five children, all of whom I had vaccinated 15, 13, 11, 9, and 7 years ago, respectively, according to their ages, three of these were attacked by the epidemic small-pox. Two of the three had the disease very mildly; the third more severely, having had considerable fever, with more than 200 pustules coming to full maturity. The other two children resisted the variolous contagion, though constantly frequenting the nursery where their brother and sisters lay. I have heard of many similar instances.

12th. I am not aware of any marked disproportion between the number of men and women attacked. In my own private practice, the numbers have been very nearly equal. In the hospital, the same observation holds good. But I am inclined to think that the disease was more fatal to men than to women.

13th. It seems to be an undoubted fact that the rate of mortality is greater, considerably, in private practice than in the hospital; in other words, that the disease is more fatal to the rich than to the poor, at least when the latter have the advantages of cleanliness and ventilation.

14th. The epidemic still exists; it has not yielded to

any other mode of fever, but is, I fear, rather increasing.

15. There is some difficulty in accounting for the frequency, or tracing the origin of epidemics in general. With respect to the one now under consideration, I must be allowed to advert to the well known and frequently observed connexion between famine and pestilence. The distress of the poor for the last nine or ten months, arising from want of food, has been extreme; and the wretched pittance they had, was of the worst quality, so that its generally observed effects were disorder of the stomach, and indeed of all the functions of the alimentary canal. Add to this, the total want of fuel, a calamity which operated in a two-fold manner; first, they had not an opportunity of drying their drenched bodies; neither had they the means of cooking their scanty victuals, so that in many instances they were reduced to the dire necessity of eating them raw. When we take into the account another circumstance, namely, that the moisture of the climate for the last 15 or 16 months has been unprecedented, we shall probably have removed some of the difficulties of accounting for the origin of this epidemic. Its cause, be that what it may, is not of any local operation or partial energy, as the disease appears to prevail generally over the surface of this island.

16th. It has not come within my knowledge or observation, that many individuals in the same house, school, manufactory, &c. have been affected with this disease either synchronously or in succession.

17th. The chief measure adopted by the inhabitants of this town, for arresting the progress of the malady, has been the establishment of a fever hospital. This was

opened on the 12th of July, since which, till the making up of the last weekly report on the 6th instant, the numbers admitted were 183, of which number the males and females have been very nearly equal, and the proportion of deaths nearly as 1 in 26. The applications for admission have been, and still are so numerous, that it has been found necessary to procure a much larger house, and to enlarge the establishment; and by the liberality of the Lord Viscount Killmorey, the old custom-house has been converted into a fever hospital.

18th. I have heard of a few instances, perhaps a dozen or more, of an epizootic distemper prevailing among dogs within the last two months. Its chief features were fever, inflamed eyes, with a great swelling of the parts about the throat, terminating in difficult deglutition and death. In one instance, a young friend of mine opened a dog that had died of this disease. He describes the œsophagus as nearly obliterated by inflammation and consequent thickening of its own coats, as well as of the neighbouring parts.

If any similar observation should have been made in other districts, it might suggest the conjecture that Homer's account of the pestilence which afflicted the army of the Greeks, may possibly be received, not as a poetic fiction, but an historical record.

Before I conclude this sketch, I conceive it may not be inexpedient to state three or four observations, the result of experience, which appear to me of the utmost practical importance. The first regards the cold affusion. In many instances of fever, the first period has passed by, under an inferior class of practitioners before

the aid of the physician is called for. Now it is in this early stage that I conceive the full advantages of the cold affusion are deriveable, namely the reduction of the febrile temperature, the interruption of the morbid catenation of febrile actions, and the solution of the disease. I have however seen numerous instances, and heard of many more, in which it was practised with the most decisive advantage. It is, however, a remedy adapted only for judicious hands: I am sure it has often been pernicious, from being carried into effect without due knowledge or discrimination. But if the principles laid down by Dr. Currie in his reports are clearly understood and attended to, I can venture to affirm, that the cold affusion is a remedy of the utmost importance in fever.

The second observation regards purging; and I can venture from much experience to affirm, that a moderate degree of purging kept up through the whole course of the disease, is useful and salutary. It seems to be the nature of fever to induce a change on the fluids secreted into the alimentary canal. The stools are in general blackish, highly fetid and slimy; and the patients pretty uniformly expressed ease and comfort after alvine discharges.

The third observation respects cleanliness and ventilation, the effects of which are so powerful and efficacious, that I think they are capable of obviating the contagious nature of the disease. In the better ranks of life, and in the hospital, where these advantages are made completely available, the disease does not diffuse itself to the individuals who are exposed to it. But where the poor are cooped up in small apartments, where the air is contaminated, and human effluvia become highly concentrated,

there can be no doubt that the disease assumes a highly contagious character.

The fourth observation regards the administration of wine and ardent spirits, to which many practitioners do still pertinaciously adhere. I have had many opportunities of witnessing the effects of this practice, and without having been able to ascertain its utility or advantage. I am satisfied that, where the heat of the body is above the natural standard, or where the sensorium is much affected, the practice is injurious. The cases of fever, which I have seen conducted to a happy termination with most ease to the patients, are those in which not a drop of wine or ardent spirits was administered till the decline of fever was ascertained, and a crisis thoroughly established.

I remain, with much esteem,

Dear Sir,

Your most faithful and

Obedient servant,

SAMUEL BLACK.

TO THE EDITORS OF THE DUBLIN HOSPITAL REPORTS, &c.

In reply to their second set of Queries.

Ballymena, May 26th, 1818.

IN answer to the queries which the Editors of the Dublin Hospital Reports did me the honour to submit

to me, I am sorry I have little to communicate worthy of their notice. My opportunity of observation was very limited, and from the want of any accurate register of the number of cases, I am totally incompetent to give an answer to many of the queries proposed. I shall, however, state briefly the facts that came within my knowledge.

1. During the winter of 1816-17, and the succeeding spring and summer, all the lower classes in this neighbourhood were in great distress, from want of provisions and fuel. Many of the small farmers, from the failure of the crops of the preceding year, were reduced to the state of paupers, and numbers of the labouring poor were out of employment; and during the winter, such was the scarcity of fuel, that many in the country were known to remain all day in bed to keep themselves warm. I may also state, that many of the farmers of a better description than those above mentioned, had not their usual quantity of nourishment, for though not in immediate want, their crops were so unproductive that they ate less, or food of a worse quality, for the purpose of prolonging their means of subsistence. I do not know that any articles not usually employed as food were had recourse to, but the potatoes and meal were of a much worse quality, and thereby might be instrumental in producing disease, or at least might make all people more susceptible of the influence of contagion.

2. The fever did not make its appearance here till July, and was at its height in November and December. It was, however, very irregular in its progress, and did not spread uniformly over all the country. Numbers were frequently attacked in our district, while the inhabitants of a neighbouring townland were quite free from it. After some time it would disappear from that part of the

country where it had first commenced, and seize upon another district not before affected. But although its attacks were thus partial, scarcely any part of the neighbourhood at one time or other escaped. I am not able to account for this irregular progress of the disease; causes which must have been so generally diffused as contagion, and the state of the atmosphere, do not afford any satisfactory explanation of it.

3. It abated in February and March, became worse in April, but is now again less severe. The changes, I attribute to the infection being called into action more frequently at one time than another by vicissitudes of temperature. For I conceive that, in numberless instances, the infection was so slight that the body would have resisted its influence, had not exposure to cold roused it into action. Its abatement in the present month, I think, is owing to the mildness of the weather, and probably also to a lessening of the quantity and virulence of the infection.

4, 5, 6. I am not able to offer any answer to those questions but upon vague conjecture, as there was no hospital established, nor was there any account of the number of cases and deaths kept. This town contains about 2000 inhabitants, and I suppose there were about 100 cases, or perhaps 130 altogether, since its commencement. As far as I can collect, there were about eight or ten deaths; but, of these, four were respectable people, of whom a very small proportion was affected, and consequently the number of deaths among them was comparatively much greater than among the poor.

7. All the cases which I saw were pretty much the same in every particular. Invariably the brain was the

organ chiefly affected, and the continuance of the disease was from 11 to 20 days. There was never any remarkable crisis; the fever abated by slow and almost imperceptible degrees. Death, in all the fatal cases, seemed to proceed from a direct affection of the sensorium, indicated, in different instances, by a loss of the functions usually attributed to the brain. All were delirious before death; in some delirium was conjoined with coma, or imperfect apoplexy, and in others with a state of the muscles nearly allied to palsy, without coma. The tongue was more frequently affected than any of the other muscles. Those symptoms often occurred however without death.

8. In general no bad consequences supervened upon fever in this neighbourhood; on the contrary, those affected found themselves in better health than they had been previously. I was lately consulted in a case of paraplegia, with diseased spine, which the patient attributes to fever, but upon minute inquiry, it appeared probable that it had originated prior to the fever, which, in all probability, may have aggravated it. Some catarrhal symptoms were frequently conjoined with it, and, in many instances, continued for some time afterwards; but I am not acquainted with any unpleasant result from them. A very curious case has indeed occurred, but it is so anomalous that perhaps it ought not to be introduced here. A young lady, in November last, was seized with typhus, which continued for 17 or 20 days, and to this succeeded severe pain, extending from the right hypochondrium to the shoulder, increased to a very great degree by the slightest touch. She had also severe pain in the back, so as to prevent the slightest motion, and she could not bear to lie on the left side: to these were added hysteric symptoms to a great extent. It was supposed to be hepatitis, or at least inflammation of the ligaments and

membranous portion of the liver, and leeches were repeatedly applied to the side with a blister; purgatives were given, and a seton was latterly introduced. Suspicion has also been lately entertained of disease of the spine, for although the symptoms are mitigated, she is not able to bear the erect position from pain and weakness in the back. There is, however, no projection of any of the vertebræ, nor palsy of the limbs; but the ligaments of the spine, as well as the liver (at least its membranes) were no doubt inflamed, and this may be viewed as a remarkable sequela of typhus.

9. I have witnessed no dissections.

10. The most efficacious treatment which I have witnessed, consists in the cooling antiphlogistic regimen, cold sponging according to Currie's restrictions, leeches to the temples; or the application of ice or snow to the shaved scalp, in cases of delirium, or other symptoms of determination to the brain, and laxatives with *enemata*; but I have generally in this epidemic found purging injurious, and productive of much more debility than blood-letting. This must be owing to the complete absence of any intestinal complication in the cases which I have witnessed, for at other times I have seen the best effects from purging in typhus. Mild saline diaphoretics were also useful, and towards the latter stage, moderate quantities of wine cautiously administered; for, according to my experience, unless the effects be carefully watched, so that the strength may be supported without increasing the symptoms, more harm than good may be done with it. Blisters were occasionally applied to the nape of the neck, but in general I preferred leeches, when the head was much affected. Opiates were always attended with the best effects after the 10th and 11th day, but if sooner used they were injurious. The generality of the cases here,

however, were not of that malignant type which I have heard described as occurring in other places, and which required the liberal use of wine. The excitement generally afforded a contra-indication to its use, unless in the latter stages, and even then, it could be used only in very small quantity.

11. I have employed general blood-letting in a few instances only, of strong robust men with great anxiety of the præcordia, oppressed breathing and full pulse, but only in the early stage of the complaint, and never repeated it more than once. I have also used it in a few cases when the pulse was small and contracted, and when from the watchfulness, delirium and sharp expression of the countenance, I suspected a phrenitic affection. I never took more than ten or twelve ounces, and it always moderated the symptoms; and although it did not shorten the course of the disease, I did not observe any debility induced by it in these cases. In general, however, in affections of the brain, I contented myself with topical evacuations, which were always attended with the best effects.

12. I am not acquainted with any domestic remedy in use among the vulgar.

13. I have every reason to think that the disease originated from contagion, and I am of opinion that this was generated among the lower classes during the indolence, poverty, and want of cleanliness of the preceding winter and spring; for it is ascertained that typhous infection will be generated by the accumulation and decomposition of human effluvia, either in a state of health or disease. The want of employment, poverty and filth of the lower classes, would readily give rise to this accumulation, and an ad-

ditional cause would be the diseases consequent upon cold and poverty, which were very numerous during last spring and summer before the commencement of fever. They were chiefly diarrhœa, anasarca and catarrhal or pulmonary affections. From all these causes of confinement there would be a stagnation of the human effluvia and consequent generation of typhous infection, which would operate with greater violence upon the debilitated poor. Many cases have indeed occurred within my observation, which could not be traced to infection or any other cause; but as it is so little cognizable to the senses, it cannot be affirmed that infection was not the cause. On the other hand, I have known many who were almost constantly in attendance upon their relations affected with typhus escape. With respect to the laws which regulate the communication of the infection I have made no observations but what tend to confirm the generally received opinion, viz. that it cannot be communicated unless by actual contact, or at a very small distance from the patient, and that when diluted with the atmosphere it becomes inert. I have also every reason to think that in those cases where proper attention is paid to ventilation and cleanliness, that little or no infection is generated; for I do not know a single instance where a second individual of a respectable family, not even the constant attendants upon the sick, was affected. I am therefore strongly of opinion, that the disease can only be communicated amongst the poor. It is impossible to form any opinion of the time the infection might lie latent, when all were so constantly exposed to fomites through the medium of beggars, who appear to me to have been the grand agents in spreading the disease, at least to the higher classes. Cold or wet appeared to me to be the most frequent exciting cause; numberless cases have occurred which seemed to have arisen from this cause, but in these cases there must have been latent

infection; for under other circumstances, and at another time, exposure to cold would have been attended with no bad effect, or at most, with catarrhal or pulmonic symptoms, which during the last year have been almost invariably attended by fever.

14. I have already observed that the disease did not spread in this neighbourhood, so much as to a second individual of any family, when attention was paid to ventilation and cleanliness.

15. Our funds were not such as to enable us to establish an hospital, but persons were appointed to inspect and clean the houses of those poor families afflicted with fever, and to remove all the bedding and beds, and supply them with new. Care was also taken to preserve not only the houses, but the streets in a clean state, and money was given to supply the necessaries of life. I have reason to believe that these regulations contributed to lessen the extension of the disease. I omitted to observe that the houses were whitewashed.

WILLIAM YOUNG.

P. S. Perhaps it might not be irrelevant to mention the case of a patient who is now recovering from typhus, whose illness is remarkable from the extraordinary rapidity of pulse which attended it. It was so high as 170 in a minute, remarkably weak and indistinct. There was delirium, great watchfulness, and she could scarcely be kept in bed. Her respiration however was not above thirty-five in a minute, which formed a remarkable contrast with the pulse. She had been severely purged before I saw her, and leeches applied to the temples. I tried small portions of wine, but it flushed her a good

deal and increased the delirium. I was afraid, from the debility of the pulse, to use even topical evacuations, and the treatment was confined to the cool regimen, sponging with vinegar and water, *enemata* and opiates; she is now recovering. I had a strong impression on my mind when I first saw this patient, that she could not recover, for I recollect Dr. Gregory in his lectures saying, he never saw a patient in typhus with a pulse above 150 recover; and certainly I never before witnessed a pulse in this disease above that standard.

AN ACCOUNT OF THE EPIDEMIC FEVER, AS IT APPEARED
IN CAVAN AND ITS NEIGHBOURHOOD,
BY DR. MURRAY.

IN answering the queries* which have been transmitted to me on the subject of the epidemic fever, I shall not confine myself to the order in which they are set down. I prefer giving a more connected account of it, with some incidental observations.

Fever has been unusually prevalent in this neighbourhood since the month of April last year. Many cases had indeed appeared sporadically during the preceding winter and spring, but not more than I have observed in other years, when no epidemic prevailed. It increased progressively in the course of the summer, and appeared at its greatest height in September. It seemed to originate among the poor, whom it affected very generally, and in the summer and autumn spread from them into the higher ranks of society; since which time, until last month, it has been confined almost exclusively to the lower classes, among whom it still prevails to a considerable

* Sent by the Editors of the Dublin Hospital Reports, in April 1818.

extent. With them it seemed to originate from a combination of causes; from scanty and unwholesome food, aided by the inelapneny of the weather, and that depression of mind, which want of employment and its necessary consequences could not fail to produce." The poverty and distress of the labouring poor in this country have been extreme, particularly for the last year. Most of them were out of employment, and such as were employed had wages insufficient to afford their families even one meal in the day. I remarked several poor families, who happened to get constant work and better food than their neighbours, to have escaped. The produce of the preceding harvest was, in general, very bad; the weather neither allowed it to ripen or to be properly saved; and the quality of the grain was so much deteriorated, that it could not be manufactured into wholesome food. The fuel, which in this country consists of turf, had been, for the most part, destroyed by the rains, so that even the affluent could scarcely procure a sufficiency of it. Many of the poor were reduced to the necessity of eating raw vegetables to keep them from starving.

When causes so adequate to the production of fever existed generally through Ireland, surely we need not (as some have done) look for its origin in the atmosphere, or attempt to trace it to a foreign source. Among the miserable sufferers from hunger, cold, wet, and all the afflicting and debilitating consequences of extreme poverty, did the present epidemic appear to me to originate, and from them it was evidently caught by many of the higher ranks, who either by accident, business, or in the exercise of charity, were brought within the sphere of its contagion. I think I have, in some cases, clearly observed it to originate spontaneously in one member of a family, and soon to affect the others by contagion. When once generated, the facility of communication

among the poor is great indeed. The swarms of beggars which infested the country, and the practice so prevalent among the common people of attending wakes and funerals, greatly contributed to spread the contagion. As many of the causes assigned still continue to operate, I think the fever is not likely to disappear for a long time, fostered, as it is, by the filthy habits of the people, and propagated continually by the means above mentioned. Many families have had it a second and a third time in the course of the last year, independent of relapses. It is difficult to ascertain the latent period of contagion, but in a great number of instances it appeared to excite the disease in a very few days; in some almost immediately, and in these, I believe, fear operated as a concurring cause.

The epidemic did not seem to be marked by the appearance of any other diseases, either preceding or concurrent, except, perhaps, some of those which usually affect children. On the contrary, it seemed as it were to absorb most other diseases into itself, for few were to be met with for a long time but fever. Nor did I observe any particular epizootic disease. In the winter and spring of last year there was indeed a great mortality among horses, but this was rather from starvation than disease.

In the beginning of September, when the disease was spreading to an alarming degree, measures were adopted in this town to check its progress, and assist the sick poor. A general subscription was entered into, which was afterwards aided by the Government. Temporary fever-houses were erected near the town, where the sick were provided with every means necessary for their recovery. The two physicians of the town, and the county and military surgeons, gratuitously undertook the care of them,

and have since continued their attendance. The town was divided into four districts; each took charge of a district. A Board of Health was formed; and proper persons were appointed to cleanse and purify the houses, as well as to watch and give notice of the first appearance of disease among the poor and working classes. All strange beggars were discountenanced or driven from the town. These means effectually checked its progress, and saved the town from its ravages, so that throughout the winter and spring very few cases occurred here, unless among the very poor. For the last few weeks it has again increased very much in this neighbourhood, as well as in some other parts of this county. In this season the little stores of the poor become exhausted, and the beggars roam about the country in vast numbers. The relaxation also produced by the late unusually warm weather may, perhaps, in some measure, account for this increase.

With respect to the peculiar form of the disease, it exhibited a great variety in its symptoms. Yet, on consideration, I think that this variety was not greater than we generally find in fevers from peculiarities of constitution, complications of disease, or the treatment adopted in the early stage. A minute description of it would be but a common place history of typhus mitior, with all the intermediate shades between that and the typhus gravior of Dr. Cullen. When the exciting cause was cold, it generally assumed the form of synochus. I cannot help thinking that a methodical division of fevers into species and varieties, has been a serious evil in medicine, particularly when it is made the foundation of distinct modes of treatment. It is a dangerous practice to treat fevers according to their names, which are and ever will be arbitrary. It is also a great source of error to make accidental symptoms the essential differences of distinct species. To consider pain as a

mark of inflammation giving a fever an inflammatory type, making it not a typhus but a typhitis, (as one physician has proposed to call it) and of course, requiring phlebotomy, or a petechial eruption as a sign of putrescence, and constituting a fever of an opposite character. Do we not see the same case exhibiting sometimes in its course all the varieties of fever? and can we suppose, that it changes its nature with every varying symptom? The fever in this part of the country seemed to have few peculiarities, nor did it differ much from the fevers of other years. Petechiæ have been a very general symptom, even in cases which had no other unfavourable appearance. They were sometimes joined with a miliary eruption, and sometimes with a bright efflorescence; and in a few, these two last appeared without petechiæ—nor were these more unfavourable. A dark and motley appearance of the skin sometimes occurred, and was much more indicative of danger. The head and stomach were the organs primarily affected. As usual, bilious symptoms prevailed much in summer and autumn; and indeed there were few cases in any season that did not more or less show signs of encreased or depraved secretion of bile. Pectoral symptoms very often supervened, but these seemed rather the effect of free exposure to currents of air than of febrile irritation. Such symptoms were particularly prevalent in the spring. Dysenteric symptoms occurred then in many instances. In that season also, the tendency to relapse was remarkable. The sensorium was very generally affected with stupor and delirium. In a few cases the delirium assumed rather the form of insanity, and sometimes continued during convalescence; but in no instance, that I saw, was it permanent.

Few cases put on a malignant appearance but those in which purgatives had been neglected in the early stage. This observation applies to the fevers of this country ge-

generally. I have heard of the disease being malignant in other quarters, and I know that the stimulant practice has been adopted and carried to a great length in some of those parts without success: whether this bad name gave rise to a bad practice, would be worth inquiry.

Several of the medical men of this county were attacked by it, and some had it very severely; but none of them died of it excepting one, an apothecary's apprentice in a remote part of the county, whom I did not see.

The duration of the disease was seldom less than eleven days, generally fourteen or fifteen, sometimes twenty-one or more; but in most cases the critical effort occurred on one of those days, and it generally terminated by perspiration and sleep.

About two-thirds of those attacked were females; but in proportion to their number, the mortality was greater among males. Many women suffered abortion during its course, and yet recovered well. The mortality was greater in the higher than in the lower classes. The enervating habits of modern life, their increased sensibility and mental exertion, the use of animal food, may all contribute to aggravate the disease in the middle and upper classes. In our little asylum (which accommodated about thirty patients) the mortality was not more than 1 in 15, including the aged, those labouring under chronic diseases, and long neglected cases. Those who died of fever alone would not amount to half that number. The treatment adopted in it has been most remarkably successful, though we neither used the lancet nor administered any cordial stronger than porter, excepting in very few instances indeed, yet our practice was by no means inert. But before I go further, I wish to make a few ob-

servations on the general practice, and some of the remedies used in fevers.

The universality of the disease, the distress it causes among the working classes, the increased mortality in the upper ranks, the conflicting opinions and consequent unsettled practice of medical men, all conspire to render the treatment of typhus an object of peculiar concern to the faculty, as well as to the public. It is painful to reflect on the consequences of the erroneous theories which have from time to time prevailed, and influenced the practice of physicians in this disease. Doctrines the most discordant, and remedies the most opposite, have been sanctioned by high authority, and have caused mischief in proportion to the zeal of their abettors. This disease is indeed peculiarly liable to such errors, from the difficulty of deducing just practical conclusions. In it the sanative powers and efforts of nature are remarkably exerted; and it is indeed often very difficult to appreciate the value, or ascertain the real effects of the remedies we employ—to distinguish between the work of art and of nature. Many recover well from it without medical treatment; many recover also under every variety of treatment; and many too, notwithstanding injudicious or improper treatment. Hence, cases may be adduced in support of every mode of treatment, and every theory of fever has received more or less support from practice. Such indeed are the difficulties of medical reasoning, and such the infatuation of theory, that many who would recoil at the idea of deceiving others can hardly avoid deceiving themselves. But where the love of fame is greater than the love of truth; when false theories are ingeniously contrived and ably supported; when men are committed with the public and will not retract, but rather warp every fact and every argument to support an opinion or a doctrine once announced—it is incalculable

what mischief may ensue. The history of medicine shews that even the greatest men are not always proof against the illusions of fancy, the allurements of fame, or the temptations of interest. And is it not humiliating to the pride of genius and learning to reflect, that after all the exertions of human ingenuity, talents, and industry, for so many ages, in forming theories, and recommending practices which, when implicitly adopted, have been so destructive to mankind, we are now nearly come back to the opinions of Hippocrates, who made the essence of fever to consist in increased heat, and directed his remedies chiefly to reduce that? How guarded, therefore, should we be in following authorities, however respectable, or admitting doctrines, however plausible, when not fully supported both by reason and experience. Away then with the spasm of Hoffman, the debility of Cullen, and the inflammation of more modern writers.—Let us fix our attention on the obvious and leading phenomena of fever, and from thence deduce our curative indications, not from uncertain theories, or unknown proximate causes. Let us suspect all authorities that stickle for a particular theory, a favourite doctrine, or a novel practice. Let what we see and what we know be our rule and guide in the application of remedies. For instance, we know that in fevers there are constant, copious, and depraved secretions from the alimentary canal and viscera connected with it, which, by their quantity or acrimony, increase febrile irritation, and by stagnation become putrescent. These must be constantly and carefully removed by purgatives, suited to the circumstances of the case. Again, we know that in fevers there is increased arterial action, and increased heat, which tend to exhaust the vital power. If these be excessive, we must reduce them by such means as will least impair the animal strength. We know that danger arises from the irregularity of fever, which often falls with violence on

particular important organs, when perhaps the force of circulation is weak in the extremities. The head is particularly liable to suffer in this way, and requires most careful attention. To restore the balance of circulation becomes then a necessary object of practice. We know that there is a peculiar kind of debility attendant on fevers, which is not removeable by stimulants, nor increased by the prudent use of antiphlogistic means. This appears too soon to be the effect of arterial action, to which indeed, in many cases, it bears no proportion. This should be always regarded, so as to make us cautious in using unnecessarily means that would increase it, particularly as we cannot assign limits to the duration of the disease. These, I think, may be considered as axioms, which will lead us to a safe and rational practice.

The great and momentous question of bleeding in fevers merits our most serious consideration. This is a remedy, of which we cannot say generally (as we can of many others) that if it does no good it will do no harm: and at a time when the medical rage seems to be so much for bold practice, those who have acquired a kind of authority in the profession ought to be cautious how they recommend, in too strong terms, a practice which is so very liable to abuse. Other remedies misapplied may, by their sensible operation, give timely notice of their danger; their injurious effects may be obviated, or their operation suspended. The ill effects of this, when used improperly, or carried too far, are often irreparable. I speak of general bleeding, as a remedy in fever, very liable to abuse, and not at all so useful as its advocates would persuade us. Of topical bleeding I think very differently. This is, in many cases, a valuable and a necessary remedy. To Dr. Mills I think the medical profession is greatly indebted for fixing their attention on the topical characters (or what I would call the topical

effects of fever. One great object in the treatment of fever should be to preserve a due balance in the circulating system, as the chief source of danger arises from the force of fever falling on particular organs, producing local congestion or partial violent action, from the irregularity of fever rather than from its general violence. Hence we often find the head or chest severely affected, when the extremities are rather cold, and when there is neither general plethora nor inflammatory diathesis. For many reasons the brain is most likely to suffer in this way:—the unyielding nature of its bony case, the direct force of the heart's action, the recumbent posture; all conspire to make it suffer. On this account, I think too much stress cannot be laid on the necessity of bleeding from the head in many cases, when other means are not sufficient to relieve it. But I cannot help fearing the practical bad consequences of a doctrine, which makes the essence of fever to consist in an inflammation. This naturally directs our attention to the common remedies for inflammation; and though Dr. Mills might be prudent enough not to push such remedies to a very injurious extent, yet many practitioners, on the same side of the question will not adopt his moderation in the use of them. The advocates for this practice have indeed furnished strong, or rather plausible evidence in support of it, and I cannot discredit the practical reports of some of them; but they have evidently overrated its value, and given to it the credit due to their purgative remedies, which were constantly and actively used at the same time. The most they have proved is, that this remedy may be used to a small extent with safety in many cases of fever, and with advantage in some. But though this may be so in hospitals and situations where the patients are well watched and tended, and under the care of cautious and judicious men; yet I more than suspect it will not answer as a general remedy in situations where these ad-

vantages cannot be had. I have watched its effects in the practice of others rather than ventured to adopt it myself; and certainly in many instances it has done much mischief. The half-starved inmates of our fever institution I did not think fit subjects for phlebotomy; and the success of less doubtful remedies made me not very solicitous to make trial of it in other cases. It may, perhaps, be considered not fair to argue against any remedy from its abuse. This I admit, with respect to a necessary remedy; but I contend that general bleeding in fever is not such, and its great liability to abuse must, in that case, form a strong objection against it. Whatever benefit is to be expected from it may be had, in most cases, from other means less likely to be abused. As to the deductions and reports from dispensary practice, I think they are not to be admitted as valid testimony, either for or against a doubtful remedy. From the nature and general mode of that practice, the dispensary physician cannot have any correct knowledge of results. The widely scattered paupers do not furnish regular reports of the effects of remedies, or the termination of diseases; and the physician cannot be expected to follow them to their miserable dwellings to ascertain these matters; nor if he had zeal to do so would he have time.

The mercurial treatment of fever is another practice, which has been strongly recommended of late, and which I consider a dangerous innovation. But I cannot believe that the thinking part either of the profession or the public will adopt it. The poor, on whom I presume this practice has been tried, do not seem fit subjects for an unnecessary salivation; they are too badly clad, and too much exposed to cold and damp for a remedy, which must make them for a long time susceptible of injury from such exposure. Besides, its well known effect of producing or increasing determination to the head is a con-

traindication to its employment in this way in fever. I have seen much inconvenience, and lately heard of one death from it. To cut short a fever, its constitutional effect must be quickly brought about, and in doing so it must often be carried to excess. In our institution some were accidentally salivated, without any apparent benefit. It prolonged their stay about a fortnight there.

The purgative treatment of fevers is no novelty in this part of the country. Above fifteen years ago, I learned it from my predecessor in this town, Dr. Wilson, who, twenty or thirty years before that time, had adopted it from his own observation, and persevered in it with great success against the tide of popular and professional prejudices. And I was not a little surprised, on going to Edinburgh about that period, to find that anodyne draughts and enemata formed so prominent a part of the clinical practice, and that active purgatives were seldom given, because it was observed, that the patients were frequently carried off by a diarrhœa. The cause of such diarrhœas I need not mention. I cannot forget the raptures which the above mentioned physician evinced on the first appearance of Dr. Hamilton's admirable work, at the coincidence of their opinions, and the prospect of what he called *his* practice being soon generally adopted in fevers. This practice is indeed now become very general. It has succeeded well here in the present epidemic, and formed the chief part of the treatment, which has been so successful in our fever institution. The following is an outline of the practice adopted here:—

On admission the patients' hair was cut off, and their bodies washed in tepid water. If in the early stage an emetic was given of ipecacuan and tartarized antimony, after which if perspiration occurred it was encouraged, and if the disease was incipient, this was particularly aimed at; but

if it did not occur soon or readily, sudorifics were not persisted in. I have in many instances checked the disease at once, when I could catch the first paroxysm, by giving an emetic, bathing the limbs in warm water for half an hour or an hour, and giving a dose or two of calomel and antimonial powder, followed next morning by a dose of salts or pulv. jal. comp. When the disease went on, purgatives were freely administered every day or every second day. In a disease in which we must rely so much on nurse-tenders, whose trouble is so much increased by the frequent repetition of purgatives, I have always endeavoured to convince them of the necessity of this practice, and by doing so, the treatment went on better. The purgatives used in general, were calomel and jalap, and a strong infusion of senna with salts and a small proportion of tartarized antimony. Purgatives were not abandoned on account of a diarrhœa, but merely modified; such as by lessening the dose, and combining rhubarb with them. In such cases I sometimes gave an opiate at night to enable the bowels to bear a purgative next morning, or to restrain them when moved to excess. If inflammatory symptoms occurred, or the fever ran high, antimonials with or without nitre were interposed, and these with occasional blisters were generally sufficient to relieve particular organs and reduce inflammatory action. When the head was particularly affected, cold applications frequently renewed with warm pediluvia long continued, and occasional blisters to the nape generally relieved it effectually. In the high state of fever, cold is a powerful agent, applied both internally and externally. I have frequently seen it in a short time subdue the delirium ferox, and remove violent pains in the head, attended with heat and pulsation: folded cloths or towels wet with vinegar and water should be kept constantly applied round the head, and copious draughts of cold water given when the patients desire it.

The cold affusion was found a very useful remedy in some cases; but I have not thought proper to use it unless where the reaction was strong, the circulation equable, and no material affection of any of the viscera present. With these restrictions it is not very generally applicable in the fevers of this country, unless perhaps in the commencement. It rarely cut short, but generally moderated the disease. Sponging the surface with vinegar and water was more convenient, and very useful. In the low state of fever, when cordials were indicated, porter was given; and this, mulled with ginger, was sometimes extremely useful in relieving the febrile anxiety and procuring sleep. This supplied the place of wine among our poor, and seemed to produce all its good effects without heating the system injuriously.

Bleeding did not form a part of our general practice, and I verily believe that none of our patients died for want of it. Three of those who died of fever uncomplicated, had been bled before their admission. I doubt not but this remedy may be highly useful in some cases. Wine and opium will also on some occasions produce most happy effects. But those occasions are so rare, and it requires so much caution and judgment to administer these remedies safely, that it would be better to discard them altogether from fever practice, than to use them indiscriminately or injudiciously. Blisters were rarely used as a general remedy, However on the eve of an expected crisis, or after an imperfect one, I have sometimes applied them with evident advantage. As a topical remedy, they were very often resorted to. In that tympanitic inflation of the bowels which occurs in typhus, whether from too much or too little use of purgatives, terebinthinate injections were highly useful. The Ol. tereb. also rubbed over the abdomen, assisted in reducing it. In such cases rhubarb and ginger were useful adjuncts to the pur-

gatives. In the higher classes, the determination to the head was generally greater, and often required leeching. The pediluvium every evening, or oftener in some cases, and continued as long as the patient could bear, I found extremely useful in relieving the head and disposing to sleep. When the patient was too weak for that, warm fomentations to the legs were serviceable. I have met with very few cases, even in those classes which required any regular or constant use of wine. In some cases, in which from their duration or other circumstances it seemed to be indicated and was tried, I found they were better without it. I rarely used it but to help a crisis or assist convalescence. In all cases copious mild dilution is of great importance to abate internal heat, and to lessen the acrimony of the morbid secretions. Buttermilk is a valuable article in fevers. The more active part of the treatment applies, of course, to the more urgent and severe cases. When the fever is moderate and the patient going on well, we should beware of letting our art interfere too much. In many such cases all we should do is to give plenty of drink and keep the bowels open.

On the whole, the practice here detailed will be found, with proper management, to cure nineteen cases out of twenty of the poor; and it would succeed well with the higher classes, also if physicians were more at liberty to adopt it, unembarrassed by the increased responsibility, and uncontrolled by officious friends and female doctors; who, however fearful and sparing they may be of what they call weakening remedies, are by no means sparing in vituperation if the patients should happen to die for want of them. I rejoice to think that the practice in fevers is now nearly settled on sound and rational principles, divested of doctrines which have so long shackled the profession. But recollecting the propensity of our nature

to run into opposite extremes, and to be diverted with novelties, and knowing how remarkably as well as how banefully it has shewn itself in medicine, I cannot help fearing that our modern innovators will carry the depleting system too far, and in their zeal to establish a new remedy or practice will neglect others more safe and useful. But we should endeavour to profit by past experience. The acknowledged errors of great men, whether speculative or practical should check our vanity as innovators, and make us cautious in taking up opinions or practices without careful examination. Let us not suffer ourselves then to be led astray by ingenious theorists, those ignes fatui of medicine; nor be swayed by authorities however respectable if unsupported by reason and experience. These are the true lights which should guide us in our pursuit of medical science. Let us never shut our eyes against them to grope after uncertainties, or to indulge our fancy in theoretic visions, which only amuse for a while and vanish.

JOHN MURRAY, M. D.

Cavan, June 1818.

SECTION II.—PART IV.



TO THE EDITORS OF THE DUBLIN HOSPITAL REPORTS, &c.

In reply to the first set of queries.



Dundrum, September 10th, 1817.

GENTLEMEN,

TO-DAY I had the honour of receiving your letter, conveying queries respecting the prevalence and character of fever in this neighbourhood. No case of fever has occurred in Dundrum or its immediate vicinity since January last, and in that month we had only one very slight case. On the Dublin mountains above Stepaside, however, and about Kilgobbin, Kilternan, and Sandymount, fever did prevail to a very considerable extent during the whole of last winter, but particularly in January and February, when hardly a cabin escaped disease. It had, in a great measure, subsided in March and April, and since May

I have met with but two or three cases in those quarters. In Milltown some have occurred more recently, although it was exempted from the visitation, as far as I know, when it raged in the opposite direction. The type of the fever has been pretty uniform through all this district: the patients, in most instances, complained much of the head during the whole period of the disease, but symptoms of serious cerebral excitement seldom appeared. Flushing, and inflamed eyes, did occur in a few instances, and in these were followed and accompanied by much delirium. In one case, indeed, the brain did not resume its healthy functions till a considerable time after the subsidence of the fever. Petechiæ appeared in this case, and in no other that I met with. The patient was a female, in the sixth month of pregnancy, and carried the child on to full time. Two have since miscarried, whose pregnancy was not so far advanced. There was not, in the above case, any pulmonic affection, nor was there indeed in any that I recollect, except in one, which was the only fatal case that occurred under my care, and this patient had been previously of a phthisical habit. There was, in most instances, hurried respiration, but this appeared to me attributable solely to general distress, and greatly accelerated arterial action. I do not recollect any case where there was remarkable tenderness or tension of the abdomen, except one of peritoneal inflammation, which occurred on the third day after delivery, and from which the patient recovered, under the use of what is now a popular remedy, Turpentine. It may be observed, that the fever was in the neighbourhood of this case. Tormina, tenesmus, with bloody and mucous stools, occurred during convalescence in only one case. While the fever was in progress, the skin was, in some patients, dry and harsh, and in others, moist and soft, and even covered with perspiration during the whole course of it. As it began to subside, patients generally complained of

pains, which they referred to their bones; and, during the progress of convalescence, an itchy eruption appeared in very many instances, covering the whole body. In a few cases, inflammation of the tunica conjunctiva occurred on recovery. The mean duration of the disease was about fifteen days. I cannot say that there was any particularly observable mode of crisis, unless I might reckon as such the pains above mentioned. Dysenteric symptoms did not interrupt convalescence, except in the one case already noticed. Catarrhal symptoms did sometimes occur at the close of the disease, but were, I believe, rather the effect of the almost total absence of every necessary comfort, than of any pulmonic complication. Relapses did not take place. Males and females were affected in a pretty equal proportion. The epidemic was confined to the lower orders, and it may be said that their mode of life, and the coldness and dampness of their habitations, greatly increased indeed by the wet season, predisposed them to the disease, if they did not, in some cases, induce it; but contagion was the manifestly prevailing cause; for almost every individual in a family, old and young, was affected by it in succession; some at greater, and some at lesser intervals. It gives me pleasure to have the opportunity, afforded by this communication, to bear testimony to the kind and liberal exertions, made for the accommodation of the sick by the family of John Bellett, Esq. North Lodge, near Kilgobbin. Every needy object had their personal services, and every necessary that their house afforded, entirely at command. The Kilgobbin and Kiltarnan association, by contributing blankets, and some other necessaries, must have alleviated suffering, and prevented disease in many instances. I do not know that any disease among the domestic or inferior animals (epizootic) either preceded or accompanied the epidemic, of which you have a brief, and but imperfect history. It might have been

more perfect, if circumstances had allowed me to pay that close attention to each case, which is always desirable, and which is particularly so when an account is to be rendered of medical occurrences and observations.

I am,

Gentlemen,

Very sincerely yours,

WM. BURKE, M. B.

Physician to the Dispensary,
Dundrum.

TO THE EDITORS OF THE DUBLIN HOSPITAL REPORTS, &c.

In reply to the second set of queries.

6th Month (June) 1st, 1818.

1. The labouring poor had been generally ill supplied with employment for some time previous to the appearance of the epidemic, whereby their means for providing fuel, clothes, and food, but particularly the two latter articles were unusually small: many of the labouring classes made up turf for their own use. Their food, from the winter of 1816 to the autumn of 1817, was uncommonly bad in quality, partly consisting of unsound malted wheaten meal, instead of potatoes or oatmeal, usually the chief articles of their subsistence.

2. and 3. The fever was observed to be very frequent in one small district, to disappear there, and then appear in

another. This continues to be the case to the present time, though the disease is in a milder form, and of shorter duration.

4. The proportion of the inhabitants of districts, affected with fever, has not been ascertained or calculated.

5. The upper ranks in this quarter have wholly escaped the fever; even in the middle classes there have been but few cases, and those not fatal.

There is not any fever hospital in this neighbourhood.

6. It is not apprehended there has been much, if any excess of mortality, over the average of the last few years in the neighbouring parts of the adjoining parishes, four persons at most having died of it under my inspection, not one of whom may be said to have been under timely care, or medical direction or control.

7. In the early stages of the epidemic, and during the cold weather, the liver and lungs were, in many cases, more obviously affected than at present or for some months past; the depleting plan by blood-letting being more decidedly indicated and more vigorously acted upon, the duration of the disease was shortened. The crisis, in such cases, was less frequently attended by long sleep than in more protracted cases. Relapses have not been frequent, when medical direction has been attended to.

8. No remarkable morbid consequences succeeded the solution of the disease, except debility.

9. No opportunities have occurred for dissection.

10. The antiphlogistic treatment has been found most efficacious.

11. Blood-letting hath been employed, as a principal and primary remedy for the fever in all cases under my care, unless some obvious contraindication strongly opposed; upon an average of more than 100 cases, seven out of ten have been so treated; the operation has been performed in some instances under what would be deemed discouraging circumstances, where the vital functions were much deranged—of choice it has been adopted in the early stages, and never omitted when the pain of the head was violent, or any of the viscera particularly involved in disease; a single instance hath not occurred to cause it to be regretted; the repetitions have not exceeded three, and generally not two; frequently one bleeding has sufficed; the blood in many instances of uncombined typhus, exhibited a thick inflammatory surface with very yellow serum, and the patient bore a repetition of bleeding till the pulse became softer and fuller. In addition to blood-letting, if nausea or vomiting prevailed or continued, so as not to admit a hope that a purgative would remain on the stomach to produce a proper effect, a weak solution of tartarized antimony has been used, which has generally brought off a great deal of bilious matter; the stomach being thereby settled, a moderate dose of submuriate of mercury combined with jalap, has been administered. Throughout the progress of the disease strict attention has always been paid to the state of the bowels, to keep them perfectly free, and, at all events, now and then to give some purgative, varying it according to circumstances; in no instance hath wine or any stimulus been administered early: in a few cases con-

valeseence has been promoted by stimulants given towards the conclusion. The blood hath been taken from the arm, in preference to the temporal artery or to the use of leeches (at least in the early stage); even in the most acute affections of the head the practice has been, in most instances, whilst the blood flowed, to have the patient erect, or out of bed, when it was on the floor; and if deliquium ensued, it often had a beneficial effect; to use leeches in the first instance, is loss of time, as it does not produce the proper and desirable depleting effect on the system; the sudden privation of from eight to twelve ounces of blood (flowing in a full stream if possible) appears, as is well known to be the case in diseases whose characters are admitted to be decidedly inflamniatory, more advantageous than the gradual abstraction of blood.

In addition to all other means employed, great stress has been laid on the ablution of the body, in all parts where it is practicable, by means of a cloth or sponge moistened with tepid water, with or without a mixture of vinegar; in some instances, water was employed cold, but in a tepid state it seemed to be more generally grateful, and the evaporation from the wetted surface soon produced a refreshing degree of cold;—sleep was often proeured thereby.

12. The *Centaurea Cyanus* has been recommended by some persons to the notice of the poor, as a specific and cheap cure in this disease; and though gathered for them, they have not had the confidence or courage to use it, in preference to remedies directed under medical advice given gratis.

13. The disease has certainly proved contagious, going from person to person, and house to house in a vicinity; individuals entering infected houses unwittingly, have been shortly after affected with the disease; the causes which

brought it into action are obscure, excepting fear, with the concurrence of dirty habits. No medical person has died of the fever, or been affected by it.

14. The disease did not extend in houses where the inhabitants were well accommodated.

15. No measures of medical police were adopted for checking the spread of the disease under any constituted authority; whitewashing, general cleanliness as far as practicable, and fumigations, have been employed; the humanity and activity of some individuals have necessarily supplied the want of a public institution; medical aid and assistance have been gratuitously rendered to the poor, and they have not been unassisted when convalescence has rendered nutriment necessary.

JOHN DAVIS.

TO THE EDITORS OF THE DUBLIN HOSPITAL REPORTS, &c.

In reply to their second set of Queries.

GENTLEMEN,

IN answer to the queries which you have addressed to the profession, I have the honour to report, that fever has been unusually prevalent in this neighbourhood during the summer of the year 1817, and it still continues, though not so extensively. This fever commenced here late in June or early in July of that year, when great numbers were affected; but I should remark that, so early as August 1816, fever of so highly contagious a nature, and to such considerable extent, existed in this

town, as induced me to direct the attention of some of the more opulent to the necessity of measures for the relief of the sick, and for the preventing its spreading amongst the families, and in the neighbourhood of the infected; but at that time, apprehension of the progress fever has since made was not entertained by them; nothing therefore was done. This fever continued till February 1817, when it almost disappeared, but to revisit us with increased violence in the succeeding June. In some written observations, made in the winter of the year 1816-17, I have assigned as temporary causes of the then existing fever, the uncommon dampness of the year, which prevented the making of turf; there was consequently a great scarcity of fuel. Grain and potatoes were scanty and bad, and necessity alone compelled their use: so scarce were provisions here, that numbers of the lower orders were forced to subsist themselves on the wild mustard, (*sinapis arvensis*) and common nettles. For these reasons, the poor suffered under the accumulated miseries arising from want of fuel, more necessary in consequence of the damp, and want of wholesome provisions. Amongst the more permanent causes, I particularly noticed the ill ventilated houses, or rather hovels, in which the poor reside, without chimney or window, with quantities of dung, or sinks filled with stagnant water, surcharged with putrefying animal and vegetable matter, at the very door; to this should be added a great neglect of personal cleanliness, and deficiency of various kinds of clothing. The scarcity of provisions will be made more manifest by the following extract of a representation made in the late summer, to the enlightened Chief Governor of Ireland, for the purpose of obtaining the assistance at that time afforded in aid of parochial contributions for the relief of the poor:—"We beg leave most respectfully to submit, that, in this parish, formerly of comparative comfort and affluence, but now over-

“whelmed with the common calamity, many families, consisting of numerous individuals, have been obliged to seek subsistence from our scanty means, and scanty as they are, being only four pence weekly for each individual, the famished poor came from the most distant parts of this extensive parish to receive their humble pittance; and though small this sum may appear for the support of an individual for a week, so miserably reduced are they now, that they esteem hardly any calamity greater than the withdrawing of it; in aid of this inadequate supply, so great was the dearth of provisions, that the commonest weeds, hitherto considered noxious, were pressed into the service of life, and afforded the means of a protracted existence to our poor.” Amongst people so fed, so uncomfortably lodged, it is not extraordinary that fever should more than commonly prevail, and that the type should be more than commonly severe. It accordingly began its ravages, accompanied by an anasarca of such frequency, that it might, without impropriety, be called epidemic, and so uniform that the description of one would equally apply to the remaining cases.

The fever began as before mentioned, and continued with unabated severity, both in the symptoms and numbers affected, till October, when a marked mitigation as to symptoms took place, the numbers being nearly the same. At that time the minds of the poor were greatly relieved from the dread of starvation, and consequent despondency; they were engaged in securing the produce of the harvest, which, from the very rainy weather, fully occupied their attention, and dispelled their former listlessness. To these causes, and others of an obvious nature, I attribute the melioration of symptoms.

Fevers in this district do not generally show marked

typhoid symptoms, they commonly yield in a few days to due attention to the alvine discharge, and in the latter stages, when the primæ viæ are sufficiently cleared, if restlessness or mild delirium remain, they receive much benefit from an opiate at night; but in this epidemic, as it commenced, typhoid symptoms set in at an early stage.

The brain and liver were the organs chiefly engaged. I have not seen an instance of the lungs being attacked. Fever generally commenced with headach, more than commonly severe, suffusion of the eyes, succeeded by delirium ferox; in three instances by coma; in three others by complete mania. Many suffered with great tenderness and tension in the hepatic region, and there were, in almost every case, highly fetid dark coloured alvine discharges. Two cases of tympanitic swelling of the abdomen occurred, one fatal; there were neither tormina, tenesmus, nor bloody stools. There has not any enumeration of the inhabitants of this district been made; the relative proportion of inhabitants affected with fever cannot therefore be assigned.

Petechiæ are more common than usual. I have seen the roseola æstiva of Willan in one case, and lately many instances of it and one of the roseola autumnalis, which I had not seen till the epidemic commenced, though then not in persons labouring under it. Petechiæ do not often occur in the fevers of this district; when they do, they occur in fevers either neglected in the beginning, or perhaps aggravated by the early use of wine or spirits, and from want of proper ventilation. Urticaria febrilis often occurred last year, but unconnected with the prevailing epidemic. There is not any establishment for the reception of fever patients, therefore lists of the admissions and discharges cannot be furnished; nor can I,

with satisfactory accuracy, give any account of the relative mortality.

Contemporary cases of the epidemic have been tolerably uniform, though cases occurring at different periods were extremely different. Thus, early in the epidemic, the determination to the head was much greater than at a later period. The excess of mortality in the several parishes cannot be ascertained, the registers of deaths containing those of persons of the Protestant religion only.

Not having taken notes, I cannot state the mean duration of the disease; but certainly in the beginning of the epidemic, recovery was more protracted: in later periods I think the duration was as in ordinary fever.

I have not had any morbid sequela of fever, one case excepted, where a gangrenous ulceration on the sacrum occurred from extreme neglect; few have amended till the alvine discharge was meliorated, at which time the skin became cooler, with perceptible moisture, the tongue cleaner, and sleep refreshing; anxiety relative to the result of illness, I have observed to be an unfavourable symptom.

I have not had an opportunity of making dissections, one or two instances excepted. Convalescence was uninterrupted; I have had no instance of a relapse.

I have not used venesection; but in cases where suffusion of the eyes, and violent delirium prevailed I have used leeches, and the unremitting application of cold water to the head, with the best effects. I have seen a number of cases of pleuritis and acute hepatitis, which required and yielded to copious venesection, sometimes repeated,

there were also many cases of hepatic disease approaching in character to acute hepatitis; these also yielded in a short time to venesection, the blood shewing a slight buffy coat, and separating, though not in a great degree, into serum and crassamentum.

I have not known any domestic remedy to have been employed in this neighbourhood, though from the uniform benefit derived from purgatives they have been freely used, without the sanction of medical authority in the particular case: so great advantage also has arisen from the cold affusion, that many families have resorted in a similar manner to it, and thereby greatly mitigated fever otherwise threatening to be severe. I cannot state the relative proportion of males and females affected, nor the proportion of deaths in the different classes of society.

I will not say the disease has arisen from, but I am perfectly convinced it was greatly diffused by contagion, as attested by the following fact:—in the little village of Coolattin, fever prevailed to great extent; one family had eleven successively attacked, and in the houses immediately adjoining that of Mr. Mathews, fever seemed to have fixed her permanent abode; yet, in so infected a neighbourhood, the family of that gentleman, by strict regulations, and by absolutely prohibiting all communication with the infected houses or inhabitants thereof, was preserved entirely free from the surrounding fever; thus affording a strong instance of fever being propagated in this village by contagion, and of the efficiency of the separation of the healthy from the infected in preventing its diffusion. I cannot state the number I may have prescribed for, it was, however, very large; the higher ranks have not been affected, the disease being confined to the poor, or to those re-

moved a few degrees above the poor. The mortality was greater, but not much greater than ordinary.

Ventilation, cleanliness, nitrons and muriatic acid fumigations and separation of the diseased from the uninfected, generally succeeded in checking the diffusion of the epidemic; but fever occurred in a few instances, notwithstanding a sedulous attention to these preventive means.

There were not any measures of medical police adopted here, nor was any accommodation afforded by the public to the sick poor; some who had the good fortune to live under humane and resident landlords were supplied with every curative and restorative means necessary for recovery; but even in these cases separation and cleanliness were desiderata. It gives me great pleasure to state, that the numbers who enjoyed these advantages were not a few; the great majority of the sick however were destitute of almost every comfort which might have been supposed necessary for recovery.

The treatment I have used consisted in the free use of purgative medicines, of which calomel was generally one; sometimes I gave it uncombined, particularly where vomiting prevailed, but generally in conjunction with jalap or scammony, and sometimes both; their operation was oftentimes assisted by the infus. sennæ tartarisatum or infus. sennæ cum magnesiæ sulphate. Purgatives were continued till the alvine discharge became in every respect natural; cold and tepid affusion and ablution have been used with the most decided advantage. Delirium and suffusion of the eyes have been combated by the application of leeches to the temples, and cloths wet with cold water, assiduously applied to the head. Wine and punch have been rarely resorted to; when the tongue is black and

dry and the teeth furred, bottled porter and ale have been of manifest use. Particular symptoms, as they arise in the course of the disease, have been opposed by the means usually employed. Stimulants, when used, appeared in several cases injurious.

THOMAS DE RENZY, M. D.

Carnew,

July 18th, 1818.

Medical Report of the Kilkenny Fever Hospital, and of the late Epidemic Fever, by E. G. RYAN, M. D. Physician to the Hospital, to the County Prison, and Lunatic Asylum.

NO exact census has ever been taken of the population of the city of Kilkenny. Mr. Tighe, in his Statistical Survey, published in the year 1802, rates its amount, including that of the suburbs, at nearly fifteen thousand persons. He is indebted for his information to Mr. John Robertson of this city, who took unusual pains in making the calculation. The same intelligent gentleman, reasoning upon the data by which he was then guided, estimates the present population of the town at about 20,000 persons, a calculation which, from various sources of information, as well as from my own knowledge, falls short of its actual amount, which may, I think, be estimated at about 25,000 at least.

The climate may, in general, be considered mild; the state of the weather, and its variations, have not been sufficiently noted, to enable me to form an accurate judgment as to its salubrity, compared with other parts of

Ireland. I know of no disease peculiar to its inhabitants, which can be fairly ascribed to the influence of climate. The air of the town I consider prejudicial to persons labouring under pulmonary complaints, most particularly asthma, probably the result of its being contaminated by the sulphurous effluvia, produced from the combustion of the ordinary fuel, the Castlecomer coal; these are so remarkable as to be almost immediately perceptible to strangers.

The condition of the labouring poor in Kilkenny has been, at all times, wretched in the extreme. Fever has constantly existed there. Its increased prevalence in the town and neighbourhood gave origin to the establishment of a fever hospital, which was opened for the reception of the poor in that city on the 1st of March 1803. From that time, to the 1st of March 1819, comprising a period of sixteen years, 4899 persons have been received into the hospital, of whom three hundred have died, being in the average proportion nearly of 1 to $16\frac{1}{3}$; 2346 of the number admitted were males, of whom 164 died, a proportion equal to about 1 to $14\frac{1}{3}$ nearly: the loss by deaths, of the remaining 2523 females, amounted to 134, a proportion equal to about 1 in 18 only. This marked difference tends to confirm the generally established fact, that fever is more fatal to the male than to the female sex, which may be most justly ascribed to the more intemperate and irregular habits of the former. More married than single persons amongst the lower classes died of fever, in that the former having families dependant upon them for support, did not yield to confinement whilst at all able to struggle against disease. Under such circumstances, the effect of remedial treatment is comparatively weak. To persons addicted to the pernicious habit of drinking spirituous liquors, fever proved uncommonly fatal.

During the last two years and a half, epidemic fever has raged to a most alarming extent in the town and country. The applicants for admission to the fever hospital became so numerous in the autumn of 1817, that the establishment was found unequal to their accommodation; and at a meeting of the Governors of the House of Industry, held on the 5th of October of that year, it was resolved that one-half of that building should be appropriated to the reception of patients affected with fever; the disease, however, having continued to increase with uncontrolled sway, the entire of the House of Industry was, by a subsequent resolution of the Governors, ordered to be given up on the 27th of the following November, for the sole use of fever patients. The annexed tabular statement, which has been carefully compiled, under my inspection, from the various registers of the hospital since its establishment, exhibits the annual admissions and deaths for the first fourteen years; the last two years have been divided into eight quarterly periods, for the purpose of shewing the rise, progress, and decline of the epidemic, and thus the prodigious increase of fever during that period, when compared with the fourteen preceding years is clearly pointed out.*

It is apparent, from the table alluded to, that the yearly mortality in the fever hospital has not borne a regular proportion to the admissions, nor indeed can any accurate estimate be formed from the registers of such establishments of the average loss by fever in general. The hospital of Kilkenny admits not only the poor of the town affected with fever, but has, for the last two years and a half, received those of the county also. Many of the patients are sent into the hospital in the most ad-

* The reader will find this table in vol. 2, p. 185, annexed to the report of the Inspecting Physician of Leinster.

vanced stage of the disorder, and on admission are in a state so hopeless as to render the interference of art nugatory; the physician has the melancholy opportunity merely of witnessing the approach of dissolution. Very many have died in a few hours after their reception. Removal at an early period of fever is attended with little or no risk to the sick; in the advanced stage it not only frequently accelerates, but is even the cause of death,* however short the distance. How much then must the danger be augmented, when persons labouring under the complaint are sent to the hospital from a distance of many miles, unprotected from the weather during the most inclement season?

Whilst the epidemic prevailed, all patients affected with febrile disorders obtained admission to the hospital, very many of whom died, not of fever, but of its sequelæ, or of diseases before latent in the constitution, rendered active by its operation. As all the deaths occurring in such establishments are usually set down in their registers to the account of fever, it is obvious that, until a more correct method of keeping such documents has been established, our opinions, with respect to the mortality in fever amongst the lower orders, must be formed upon very inaccurate data. It is still more difficult to form a just judgment as to its rate of mortality in the middle and upper ranks of society, amongst whom, at all times, but particularly during the prevalence of the epidemic, the fatality far exceeded that of the poor.

No precise opinion can be formed of the number of poor affected with fever who remained in their own houses during the continuance of the epidemic, nor can

* This remark is not supported by the extensive experience of the Physicians to the Dublin Fever Hospitals.

I, from any accurate source of information, state the time of the rise or decline of the fever in the adjacent parts of the country: no particular district was exempt from its influence; wherever you turned your steps it encountered you; during its height, numbers of the poor were found lying in the open fields, or crowded together by the road sides in huts scarcely fit to afford shelter to brute animals. Many of those who might have sought refuge in the hospital concealed their illness from the apprehension of being refused admission on recovery to their usual abodes. The name of typhous fever, or the report of having been an inmate of a fever hospital, in many instances, extinguished those ties of affection to each other for which the lower orders, in this country, are so remarkable.

The greatest consternation pervaded all classes from the dread of contagion: the mistaken views entertained of the various modes by which fever is propagated, increased the alarm, and tended to give importance to every febrile attack, however insignificant. Typhous fever appeared almost exclusively to occupy public attention; every other disease seemed to have vanished before this formidable malady. Complaints not bearing the most remote resemblance to it were designated by that title; every slight indisposition excited alarm. The countenance of the medical attendant was examined with the most scrutinising anxiety by the sick or their friends; the slightest hint of fever gave occasion to melancholy forebodings, and produced an effect, highly prejudicial to the sick, in the most trivial febrile attack. The dearest affections, and that attention to the sick which no ordinary illness however protracted could interfere with, seemed, in many instances, to be totally extinguished by the fear of personal danger. Many persons were persuaded that not only the atmosphere of the apartments of the sick, but that of the

whole of their habitations, however large, and even that of the streets in which they resided was contaminated by the contagion of typhous fever; that the sick generated, even in the open air, a pestilential atmosphere around them. That the danger of contagion increased in a ratio equal to the approach to convalescence, and that the risk to those coming in contact with persons recovering from fever was imminent, even in the open air. The prejudices of the vulgar and illiterate originate with their superiors; can they then excite our astonishment, when some of the members of the medical profession went so far as to state, that the matter of contagion emanated, in a highly concentrated state, from the body during convalescence, and that the danger from it was even then greater than in the height of fever? Were an opinion so erroneous supported by any train of reasoning, it might require refutation, but this it carries it in its extreme absurdity.* Where the atmosphere was vitiated by want of proper ventilation or by filth, approximation to the sick was attended with imminent hazard; under such circumstances neither length of attendance and habitual exposure to contagion, nor frequency of attack, afforded any immunity from fever. During the height of the epidemic, at a period when the fever hospital was obliged to receive more than double that number of patients which it was capable of conveniently accommodating, the steward and housekeeper, with their daughters, resident in the hospital since its first establishment, and every individual of their family, the nurses and servants of the hospital, suffered repeated attacks of fever. In the winter of 1817, when the epidemic began to extend its ravages, the institution sustained a heavy loss, and his family a severe affliction, by the death of the late Mr. Cummins, who had been apothecary to the hospital from the time of its establishment. He appear-

* The opinion here controverted is held by many well informed physicians in different parts of Ireland.—Editors.

ed to have caught the disease in a lodging house, where he had been to visit some poor persons previous to their admission into the fever hospital. This house proved a fruitful source of fever, which raged there with such violence, that above forty persons were brought thence to the hospital in a very short period. Mr. Buckley, one of the apprentices of Mr. Cummins, fell a sacrifice to the distemper. Mr. Sinclair, one of his pupils, Mr. Pack, surgeon to the hospital, his brother Mr. Robert Pack and Mr. Hartford, (both his pupils) were all attacked with fever, but recovered after severe and protracted illness. Numbers of the Roman Catholic Clergy, whose duties render a close attendance upon the sick indispensable, and this under the most distressing circumstances of poverty, filth and want of ventilation and cleanliness, were infected with the disease, and some of them became its victims. When the air was kept pure by strict attention to ventilation, by the removal of all foul discharges and by constant cleanliness, contagion proved inert, however free the communication with the sick, and I cannot now call to my recollection a single instance of fever, which I can fairly ascribe to the influence of contagion, happening to a second individual of the family of the higher or middle ranks, where I have attended. In their houses the most scrupulous regard was paid to those means pointed out by the medical attendant as best calculated to prevent the dissemination of fever.

The sources from whence the late epidemic has arisen are various; of these, the principal amongst the lower orders, may be justly said to be the want of the common necessaries of life. The labouring classes through every part of Ireland have suffered unprecedented misery within the last two years, and sustained privations highly injurious to health. The means of providing their ordinary though miserable supply of food being curtailed by

the want of employment, the high price of provisions, caused by two years of unusual scarcity, added to the unwholesome quality of their food, which rendered it almost unfit for human sustenance; the want of clothing, of fuel, and of every other comfort which could tend to support that existence, which is at best preserved with a struggle amongst the labouring poor, may be all considered as fertile sources of the calamity with which the country was afflicted. The want of employment, so generally experienced through the kingdom by the labouring classes, induced great mental depression, and rendered them highly susceptible of fever. Mendicancy has, within no very distant period, increased to a most overwhelming extent throughout Ireland. The sudden revulsion from war to peace had deprived numbers of employment; population, such a source of wealth and of power to other states, but of so much misery to Ireland, had increased considerably beyond her resources; the decay of trade, the ruin of manufactures, the decline of commerce, the high price of land artificially created by land-jobbers, an enormous weight of taxation, the vast income drawn from the country by absentees (the deadliest foes of Ireland) are causes, amongst many others, which have reduced countless numbers to want, and caused pauperism, within a few years, to increase to so alarming an extent as to have converted a considerable part of our population into mendicants. Fever was rapidly propagated through the kingdom by the number of vagrants that pervaded it, many of them unable to procure subsistence from want of employment, and many too lazy and dissolute to labour when it could be obtained. The evil has been felt with all its weight in Kilkenny, for in addition to the poor of the town and county, it has been inundated with mendicants from every part of Ireland. The House of Industry might have operated as a

elieck to mendicity, but the measure necessarily resorted to of giving it up for the reception of fever patients, served to encourage an unusual influx of vagrants to the town from every part of the country. Fever attended as a necessary consequence of such an assemblage, and from their poverty, filth, and the ready admission of such mendicants to the habitations of the lower orders, we cannot feel surprised that it should have proved highly contagious.

I am unacquainted with any facts which might enable me to form an opinion as to the latent period of contagion. A young gentleman, who had returned to his friends from school from the apprehension of fever, which had prevailed amongst the pupils, was attacked with it, and placed under my care in about a fortnight after his arrival at home. The fever was of the typhoid type, and, if report may be relied on, very analogous in its symptoms to that prevailing at the establishment which he had left.

Great exertions were made by the inhabitants of the town and county for the relief of the poor; the situation of those of the city and adjacent country would have been calamitous in the extreme, but for the efforts made to alleviate their distresses. In these acts of benevolence all classes of people most cheerfully combined. In the year 1817, an establishment was opened for supplying the distressed poor with provisions, either gratuitously or at reduced rates. Some idea may be formed of the extent of their wants, if, according to the statement of Mr. John Prim, (one of the gentlemen who humanely assisted in its management) above 12,000 persons were, at one time, applicants for relief. I have no hesitation in declaring my opinion, that many of the persons received into the fever hospital died rather from the state of weak-

ness to which they had been reduced by famine than from fever. Nothing could exceed the deplorable state of misery of the lower orders, but the equanimity with which they sustained their suffering. Disciplined in the school of adversity, where the maxims of the philosopher and moralist are acquired by practical experience, they afforded edifying instruction to those who so coolly expatiate on their distresses, and who so calmly recommend patience under those privations, which they have themselves never been obliged to sustain. Such was their distress that almost every edible article, and many of those which would at other times have been rejected, were eagerly sought after by the poor, and greedily devoured. The fields and highways were ransacked for various vegetables, to assist in affording them nutriment; the *Brassica napus* and *Urtica* were most assiduously sought. It is worthy of observation, however, that the *Silene inflata*, which grows in great abundance through almost the whole of this part of the country, and which afforded, according to Cleghorn, wholesome nutriment to the inhabitants of Minorca during a period of scarcity, was entirely neglected here, probably from ignorance. I recollect but a solitary instance, and that many years ago, of having seen it collected for food.

I have not been informed that any epizootic disease prevailed, either immediately preceding or during the epidemic. During the winter and spring of the years 1817 and 1818, inflammatory affections were frequent amongst horses, and readily yielded to general blood-letting, purging, and tartar emetic, in doses of from forty to sixty grains, given at night. The rot prevailed to a great extent amongst sheep, and destroyed numbers of them; it probably resulted from the unusual wetness of the seasons. The *Hydrocotyle vulgaris* and *Pinguicula vulgaris* occur in the swampy pasturages of this country; to

the effects of these, the disease has been frequently ascribed by farmers, with what justice I cannot pretend to decide.

The fever hospital of Kilkenny had, on its first establishment, and for many years afterwards, been attended gratuitously by some of the medical practitioners of the town, in monthly rotation. On the 23d of August 1819, it was placed under the regulations of Sir John Newport's Act, at which time the Governors elected a Physician, a Surgeon, and an Apothecary, and appointed a Steward and House-keeper, with the requisite number of nurses and servants. All persons in fever sent to the hospital are immediately received. The dietary is regulated according to the following table, the physician being at liberty to make such alterations for individuals as he considers proper, and is neither confined with respect to the quantity of wine, bottled porter, or ale, which he thinks requisite. In the use of these, however, he has found it necessary to be extremely moderate, not only in the fever hospital, but in private practice.

DIETARY OF THE KILKENNY FEVER HOSPITAL.

Fever Diet.

Two ounces of brown bread, one pint of milk gruel, one quart of milk for whey, and a quarter of a pint of buttermilk.*

Middle Diet.

One pound of brown bread, one pint of milk gruel, or one pint of milk, and one pint of broth.

* To make two milk whey, as it is called, an excellent diluent in acute diseases.—Editors.

*Full Diet,**For Sunday, Monday, Tuesday, and Thursday.*

One pound of brown bread, or two pounds of potatoes washed, thirteen ounces of meat, and one quart of broth, and one pint of milk gruel, or one pint of milk.

For Wednesday, Friday, and Saturday.

One pound of brown bread, one pint of milk gruel, or one pint of milk, and one quart of broth, or one quart of sweetened gruel.

N. B.—One ounce of oatmeal to be allowed for each pint of gruel; the milk gruel to consist of one part of milk, and three parts of porridge.

Two ounces of meat to be allowed for each pint of broth, and half an ounce of oatmeal; thirteen ounces of meat with bone, boils to about eight ounces without bone.

Typhous fever assumes such a variety of forms, and is so much influenced in its symptoms by peculiarity of constitution, its varieties are so intimately interwoven, that it is a matter of much difficulty exactly to define the species. The practical advantages derived from such an attempt by no means compensate for the labour.

The division, adopted by some late writers on the subject, into simple and complicated typhus, seems to be attended with all the advantages likely to lead to a judicious and correct method of practice.

The modes of fever admitted to the hospital varied considerably at different seasons. In the autumn and winter of 1817, the number of fever cases with petechiæ was considerable, and some of the worst forms of typhus prevailed during these periods. In the advanced stage of the complaint the countenance became flushed, and of a purplish colour; the vessels of the conjunctiva turgid, the sensorium was much disturbed; muttering delirium was frequent, with spasmodic starting of the muscles and singultus; respiration was hurried, the pulse quick and faltering, the tongue covered with a brown and firmly adhering mucus. Many of these patients remained for days in a state of stupor, the whole body assumed a mottley and purplish appearance, the circulation seemed gradually to cease, the heart not having sufficient energy to propel the blood to the extremities, these became cold and livid, and the legs assumed a dark purplish colour, strongly indicating an approach to gangrene; the latter appearance was frequently accompanied with most excruciating pain of the limbs. Cases of this description occurred principally amongst persons who were sent to the fever hospital in the advanced period of fever, and proved highly fatal. Some of the patients, whose vigour of constitution enabled them to struggle through this state, had their recoveries protracted by gangrenous ulceration of the loins and nates. Neither wine nor other stimulants seemed to excite the sinking powers of life; the pulse continued small and feeble for weeks. Many who survived lost the toes of one or both feet; some a part of the feet, and others one or both legs. The process of sloughing and healing proved extremely tedious. In some instances, months elapsed before a line of separation formed between the gangrened and living parts, or before the constitution recovered sufficient vigour to admit of operation, when necessary. A poor man, sent to the county hospital from the neighbour-

hood of Knocktopher, one of whose legs was amputated below the knee, remained for a length of time in the hospital, in a state of extreme debility, before the operation could be attempted. A second person, T. Wall, sent from the neighbourhood of Castlecomer, both of whose legs were amputated below the knee, was similarly affected. Both of these persons stated that they had had protracted fever, and had suffered extreme want. They left the hospital in vigorous health. In one instance, in the fever hospital, the nose presented the appearance of gangrene, and was saved with difficulty, a great part of the skin having sloughed off. I heard of two instances where it was entirely lost.

Relapses, both of patients in the fever hospital, and of those discharged from it, were frequent, and, amongst the latter, particularly fatal, a circumstance which cannot excite our wonder, as many of them had neither habitations, fuel, clothing, or food. As the spring approached, the epidemic assumed more of an inflammatory character. Symptoms of peripneumony, or catarrhal affection, not unfrequently accompanied the attack. The countenance was flushed, the eyes sparkling, the tongue white, accompanied with thirst and loathing of food, the pulse quick and hard. During the summer and autumn, fever, attended with a deranged state of the organs of digestion, particularly of the biliary system, was frequent. The patient was distressed with retching and bilious vomiting, the pulse quick and weak, the tongue loaded, the bowels much confined, the skin dry, and of a pungent heat; the patient complained of uneasiness in the abdomen, which was often tumid, and accompanied with tenderness of the epigastric, hypochondriac, and umbilical regions, and occasionally with distressing pain of one or other temple, or the forehead.

The preceding are the symptoms which usually attended the fever from the autumn of 1817 to that of 1818. About this period dysentery, a complaint unknown in this part of the country, as an epidemic in, the memory of the oldest medical practitioner here, made its appearance at first amongst the lower classes, to whom it was chiefly confined (though a few cases occurred amongst the higher orders); it spread universally when combined with typhous fever amongst the poor; numbers died of it, both in their own habitations and in the fever hospital; few indeed were saved when the disease was severe, had been protracted, or when early assistance had not been sought. The whole alimentary canal was readily excited to diseased actions amongst the miserable victims of poverty and famine.

The disease declined towards spring 1819, and in the summer almost entirely disappeared. The fevers of the winters of 1818 and 1819, and of the spring summer and autumn of the latter pretty exactly resembled those of the former year; gangrenous ulceration and mortification of the extremities were uncommon, parotid abscess was frequent in the winter and spring; but as far as I can bring it to my recollection no person so afflicted died, though I have seen the constitution reduced to the greatest extremity by the discharge, and in one young woman who had passed through the most malignant typhous fever, followed by peripneumony, the gland was entirely destroyed by supuration, the digastric muscle, the carotid artery, jugular vein and nerves on the left side of the neck were laid entirely bare by it, and exhibited a dissection as perfect as if from the knife of the most dexterous anatomist.

A variety of cutaneous eruptions frequently accompanied or followed fever; its most common attendants were

petechial spots resembling fleabites, some of a pink or reddish colour, others of a dark red, others of large size and of a deep purple colour; a very few much resembled the eruption of measles. In one instance only do I recollect the occurrence of vesicular eruption attending fever. The petechial eruptions were more common both in the hospital and in private, during the first appearance of the epidemic than afterwards; to me they did not appear to indicate increased danger, the majority disappeared under the influence of free ventilation, cleanliness and cool regimen. The dark purple petechiæ of large size were uncommon except in the worst description of typhus, but were frequent concomitants of the disease in its most formidable shape. Vesicular eruptions about the wrists and fingers, resembling psora, were common after fever; they readily yielded to the application of the sulphur or white precipitate ointment. Fever was not unfrequently followed by obstinate ophthalmia, which sometimes terminated in the destruction of the eye, by amaurosis either of one or both eyes, by obstinate headach, paralysis of one of the limbs or hemiplegia; by affections of the pulmonary system, terminating occasionally in phthisis, by disease of the liver, spleen and digestive organs, by irritability of the urinary organs, attended with painful micturition and sometimes a discharge of blood, by hydropic affections, as anasarca, ascites, and not unfrequently by a disease very much resembling phlegmasia dolens, both in the male and female sex, by loss of the toes, feet, or one or both extremities, by gangrenous ulcerations, by abscesses, which not unfrequently ended fatally; such was the previous state of debility to which the constitution had been reduced.

The prejudices against anatomical investigation are so strong, as almost to have precluded me from any attempt

to investigate the morbid appearances after death from fever; nor do such inquiries, in the opinion of some of the best informed authorities, tend to throw much light upon the mode of treatment. In one subject, who died of typhous fever in the summer 1818, a very minute examination was made. On removing the upper part of the cranium the brain and its membranes seemed unusually loaded with blood, but the appearances were rather those of venous congestion than of active inflammation; the vessels of the pia mater and plexus choroides were tinged, a small quantity of fluid was found in the ventricles, the brain was of the usual consistence; this person had been harassed with obstinate diarrhœa, the state of the alimentary canal was therefore attentively examined, the mucous coat of the intestines was thicker than usual, and covered with a preternatural appearance of small vessels filled with blood of a dark purple colour; the liver, spleen or thoracic viscera did not present any appearance worthy of notice. In a case of dysentery, which I examined, the intestines presented similar appearances; but the spleen was much enlarged, dark purple, and so preternaturally soft that it broke down on the slightest pressure with the fingers. In the case of a young gentleman, in whom delirium took place at a very early period, whose fever was accompanied at first with the common symptoms of bilious fever and frequent pulse for the three first days, which afterwards sunk to less than sixty, and who died on the 5th day, the appearance of the brain and membranes differed very materially from that formerly described; the membranes were highly loaded with blood, and exhibited an unusual number of blood vessels filled with florid blood, plainly indicating the presence of acute inflammation; the convolutions of the brain beneath the pia mater were filled with fluid resembling coagulable lymph; the lateral ventricles con-

tained more than their usual quantity of fluid, and the plexus choroides was uncommonly vascular. No examination was made either of the thoracic or abdominal viscera.*

Concluding Sentence.

Though so much has been written on fever, the subject is still capable of filling volumes. However, the abundant experience acquired in Ireland during its continuance will, it is hoped, tend to simplify and improve our practice in a malady, which cuts off such a proportion of mankind. The continuance of a severe and tedious indisposition, during which this report has been written, will probably plead in extenuation of the numerous faults with which it abounds;† its object is to give an account of the epidemic till the 1st of March 1819 only.

The annexed table, however, exhibits the state of the hospital till the 31st of December 1819, and affords most satisfactory evidence of the further decline of fever.

* To these observations was subjoined an account of the method of treatment followed by the author, which the editors regret that they are prevented, by the prescribed limits of their work, from laying before the reader.

† The Editors are deeply concerned in having to add, that the illness aluded to terminated in the death of the intelligent writer of this report.

Date.	Males Admitted.	Males Died.	Average.	Average No. in a 1000.	Date.	Females Admitted.	Females Died.	Average.	Average No. in a 1000.
1819.					1819.				
From March 1	71	6	As 1 to 11½	As 84 to 1000	From March 1	87	4	As 1 to 21¾	As 46 to 1000
June 1	101	2	1 ... 50½	19 ... 1000	June 1	138	5	1 ... 27¾	36 ... 1000
September 1	45	5	1 ... 9	111½ ... 1000	September 1	80	9	1 ... 8⅞	112½ ... 1000
Dec. 1 to 31	20	1	1 ... 20	50 ... 1000	Dec. 1 to 31	27	3	1 ... 9	111½ ... 1000
Total -	237	14	1 ... 17 nearly.	59½ ... 1000	Total -	332	21	1 ... 11½	47 ... 1000
From the 1st of March to the 31st of December 1819, inclusive.									
Total Males Admitted	-	237	Total Males Died	-	14				
Total Females do.	-	332	Total Females do.	-	21				
Total Males and Females Admitted	569		Total Males and Females Died	35				Averages as 1 to 16¼ nearly.	



STEVENS'S HOSPITAL

SECTION III.—PART I.

DESCRIPTION OF THE PRINCIPAL SYMPTOMS AND MODE OF TREATMENT OF THE EPIDEMIC FEVER OF 1817, 1818, AND 1819, SELECTED FROM COMMUNICATIONS MADE TO THE EDITORS OF THE DUBLIN HOSPITAL REPORTS, TO THE MEDICAL INSPECTORS APPOINTED BY THE LORD LIEUTENANT, AND TO THE EDITORS OF THIS WORK, INCLUDING THE RESULTS OF THE PERSONAL OBSERVATION OF THE EDITORS.

MUNSTER.

IN a former part of this work, at page 49, 50, we have given our readers a view of the several periods, to which

the commencement of epidemic fever was referred in the province of Munster. It seemed to originate among the lower classes, but was not confined to these. In many instances its commencement in families could be traced to children, who were attacked with an illness, which bore the name of worm fever, and soon thereafter the adults were in succession attacked with fever in its genuine epidemic form.* We have reason to believe that fever thus commenced in families not merely in Munster, but in many or most parts of Ireland, and a knowledge of this fact should afford a caution respecting infection thus proceeding from children, which is too generally disregarded. Its commencement in families with the children was thus noticed at Roscrea, in the county of Tipperary.†

With respect to the prevalence of the disease, very copious details have been given in the reports from various fever hospitals, inserted in the 4th section of vol. 2, and in the accounts of medical residents in most parts of the country, as given at p. 82 of vol. 1. That, in remote parts of Ireland, it was as prevalent as in the towns, has been fully proved by the concurring reports of many eye witnesses. In a village, consisting of three houses, situate in the neighbourhood of Listowel, a small town in the county of Kerry, sixteen persons were known to be affected at one time.‡ In mountainous districts around Fermoy, near Rathcormuck and Watergrass-hill, it raged to a very considerable degree; and in several very remote parts of the province it was extremely prevalent; indeed there is reason to believe that the crowded city and the country, the mountain and the valley, were equally the subjects of its visitation.

Whenever the different members of a family were,

* Dr. Ryan, Listowel.

† Dr. Dancer and Mr. Kingsley.

‡ Dr. O'Connell of Listowel.

from poverty, obliged to sleep either within a small distance of each other, or in the same bed, in narrow and ill ventilated apartments, with general neglect of cleanliness, and with clothing scarcely ever changed or washed, in these circumstances, in which the poor are so frequently found in Ireland, fever spread through families. This is confirmed by the reports of all our correspondents, and by testimony of every kind.

That such causes mainly contributed to the extension of fever, is proved by the comparative exemption from this disease, noticed among the upper ranks of society. Thus, in the city of Cork, it rarely attacked more than one individual in a family of the superior classes.* In Tipperary it did not spread in houses where free ventilation could be put in practice.† Dr. Grogan of Limerick never saw it extend through any family where ventilation, cleanliness, and comforts were enjoyed. As a striking example of this assertion he adduced his own family, consisting of thirteen persons, of whom one individual was attacked, but the disease stopped there, and never extended farther. The same observation was made throughout the province, with a few exceptions, of which some have been already noticed in former parts of this work.

In its progress it often migrated from one village to another. Thus, in the vicinity of Listowel, it attacked certain parishes, continued for some time in these, then ceased, and appeared in others, where it had not previously showed itself. It was designated very generally, even by persons not medical, by the name of typhus; and at the commencement of its epidemic prevalence, this denomination was not misapplied to the disease, when it attacked the middling and upper classes, for it assumed

* Dr. Osborne.

† Dr. Armstrong.

with them much of the typhoid form, at least at this period. In the vicinity of Kinsale it began in the form of typhus, and subsequently passed into that of synochus.*

The causes of the disease in Munster were nearly the same as in the other provinces. Those causes which operated remotely were the extreme privations of the poor, arising from the cold and humidity of the summers and autumns of 1816-1817, the consequent failure of the crops, and of fuel, together with the cessation of demand for labour, owing to the peculiar circumstances of the country at that time. Hence arose crowding of apartments, an unusual intermixture of the population in quest of food or work, neglect of cleanliness and depression of mind, causes universally allowed to favour the progress of contagious disease. In a communication from Cork, Dr. Osborne mentions that "families, consisting of many individuals, were found in cellars and garrets, with no covering but the remnants of clothing too contemptible for even the pawn-broker's avarice, water their only drink, and food, if any, the offal collected from the slaughter-houses. Yet," he adds, "through this complicated wretchedness, no scene of outrage disgraced the city. The people were patient under their sufferings, and thankful for the relief offered them. One predominant feeling characterised all, affection toward their relatives, evinced by persevering attentions through every stage of the disease, and frequently ending in their own destruction."

The condition of the poor, as to clothing and accommodations of every kind, was in many places most wretched. Thus, at Kinsale, we are informed that

* Dr. Bishop, Kinsale.

“ that the appearance and habitations of the poor betokened extreme want, almost every article being pawned or sold.” In answer to the inquiry, “ what cause can be assigned for the production of fever ?” Dr. Biggar of Cork replied that “ want of the usual bodily labour, whereby there is also privation of the means of procuring food of good quality, or in sufficient quantity, consequent depression of mind, absence of the ordinary stimulus of spirituous liquors, crowding of habitations, increased neglect of cleanliness and ventilation ; all consequences of the peculiar circumstances of the poor at that time, have tended to create, harbour, and disseminate disease.” The crowding of apartments, in order to procure warmth by a concentration of animal heat, must at this time have increased to a great degree, in consequence of the scarcity and high price of fuel, and must have contributed to favour the spreading of disease by contagion. At Mallow the price of a measure of turf (about the government kish) was nine shillings, and not more than one-fifth of the labouring poor had employment at the rate of eight pence per day.* But although we represent scarcity of food and want of employment as principal causes of fever, we believe these to have been merely accessory, and not essential to its production. In fact, fever did not in some places become epidemical till scarcity had ceased, as at Dingle : in the neighbourhood of Fermoy potatoes, the chief or exclusive diet of the poor classes, were as good in the year 1817 as at any former period ;† and the failure of demand for labour has, in many parts of Ireland, existed in a great, or even greater degree, since the complete cessation of epidemic fever in these places.

That the chief immediate cause of the spreading of

* Dr. Galway.

† Dr. Campbell.

fever in this province was Contagion, is confirmed as well by the testimony almost universal of our numerous correspondents, as by direct communication with many personal observers. Dr. M'Carthy, of Skibbereen, reports fever to have been extremely contagious in the county of Cork. The frequent attacks of fever amongst those whose duties brought them into contact with the sick, has been already noticed. "No class of attendants on the sick," observes Dr. M'Carthy, "suffered so much from the contagious nature of the disease as the Roman Catholic clergy. I shall here relate a single circumstance, to prove the hardships and dangers of that body. In October 1817, I was called to the town of Bantry, to visit a Catholic clergyman, on the 10th day of fever, arising from exposure to contagion. He had convulsions, and his case was in every respect bad. He ultimately recovered; but a clergyman, who resided at some miles distant, and who visited him, became ill in a few days after, and died on the tenth day. The clergyman who visited this gentleman also caught the disease, and died on the eighth day. Indeed hardly an individual of this body escaped fever, and several lost their lives in the discharge of their duty."* In our general history we have adduced similar instances. Dr. O'Connell of Listowel observes,† "that the careless intercourse of the healthy with the infected, in the practice of holding wakes, contributes greatly to propagate infection. Strolling mendicants, who themselves or their children were, or are still infected, convey infection over the country. I lately observed one of their families, with six children, asking alms, and being told that one of the children was unwell, I had the curiosity to examine them all, and found that four out of six were actually labour-

* Letter dated July 24, 1819, from Dr. M'Carthy to the Editors of this work.

† In a letter dated June 10th, 1818.

ing under fever." He remarks, however, that many cases have occurred to him where he could not trace the origin of the disease to contagion, and thinks that infection may originate in the filthy habitations of the poor. Cases, similar to those related by him, of itinerant mendicants carrying with them children in fever, observed in the town of Killarney, have been communicated to the Editors, and no doubt were frequent in many parts of Ireland: their occurrence, taken in conjunction with the known hospitality of the lower classes, affords evidence indubitable of the efficacy of contagion in propagating fever. Its not extending in families, whose circumstances were unfavourable to the spread of the disease, renders probable the same agency. Dr. Bishop observed at Kinsale, that, previous to September 1817, he never had two patients in fever at the same time in the house of a person of the upper ranks, where ventilation was practised; and the immunity from fever of persons of this class has been abundantly noticed in various parts of this work. The comparative infrequency of fever among the superior classes of society is strongly exemplified in a communication from the populous city of Waterford in June 1818, which stated that no case of fever then existed among the inhabitants of that class, although the fever hospital was receiving patients at the rate of at least 200 monthly.

In circumstances so favourable to the extension of contagious disease as those which attended the beginning of this epidemic fever, it might be expected that other diseases besides fever would have showed themselves; accordingly it was observed that various cutaneous affections prevailed amongst the poor during the spring of 1817,* and the small-pox, a disease referrible to conta-

* Dr. Galway of Mallow.

gion solely, was more than usually prevalent over most parts of Ireland. In adverting to the causes which appeared to excite fever, those which seemed immediately to bring it into action also claim attention. The dampness both of the clothing and dwellings of the poor, caused by the scarcity of fuel in the years 1816 and 1817, must have had no small share in this respect. That cold excites fever, is universally acknowledged. To these causes should be added apprehension, which, according even to vulgar observation, is supposed to render the system obnoxious to an attack of fever. Dr. Sharkey of Cork, in a communication to the Editors, relates that many were said to be instantaneously seized with the disease on coming within view of the fever chairs, and similar statements have been made to us from other quarters. Some exciting cause, resembling cold, may be necessary in every case to give a commencement to that train of morbid action which constitutes fever. The operation of fear, in this respect, may be similar to that of cold. A slight chill of the surface, and depression of vital energy, attends any impression allied to fear, and may be sufficient, when contagion has been previously received, to give origin to the diseased actions with which an attack of fever commences.

To describe minutely the mode in which fever began in individuals, would be to repeat the ordinary descriptions of an attack of fever in its several varieties. We shall therefore confine ourselves to those circumstances which appeared more peculiarly to characterise the late epidemic disease in its early stages. Many accounts concur in representing the cerebral excitement at this period of fever, to have been very considerable. The determination to the brain was indicated by pain of the head of various degrees of intensity, suffused face, one or both cheeks marked with a circumscribed patch

of red, such as is observed in hectic fever, protuberant glassy eyes attended with a redness of one or both of them; intolerance of light and noise, pulsation of the carotids, disturbed sleep, false conception of things, wild expression of countenance. Such symptoms were observed at Cork,* Kinsale,† and Waterford. At Fermoy also it was noticed that flushing of the face, intense headach, inflamed eyes, delirium, subsultus tendinum and coma, appeared rather early in the disease.‡ At Tralee the brain was the organ most frequently and principally affected. When spirituous liquors had been used at the commencement, the determination to the head was then, as might be expected, very considerable.§

Delirium ferox was observed at Limerick, and another symptom indicating a determination of blood to the head, namely, hæmorrhage from the nose, which in some instances took place to a very considerable extent.||

As to the organs chiefly affected in the progress of the disease, some variety seemed to exist. In most instances the brain has been reported as the organ which suffered chiefly. In some places, as at Ennis, the lungs were not at all affected, during the early periods of this epidemic fever;** but in other places, the lungs next to the brain principally suffered; this was observed at Listowel.†† The same remark was made at Tralee, and Dr. Bishop observed at Kinsale that the lungs were frequently affected in children. At Ennis it was noticed as a peculiarity in the fever, that profuse perspiration occurred in its earlier stages without any relief to the

VOL. I.

F F

* Dr. Hallaran. † Dr. Bishop and Dr. Beamish. ‡ Dr. Campbell, Fermoy. § Dr. Mackesy, Waterford. || Dr. Grogan. •• Mr. Castle.
†† Dr. O'Connell.

patient; and it was remarked at Waterford, as stated in the report at page 251, that copious perspiration often afforded no relief. Yellowness of the skin and tuniæ adnatæ of the eyes was frequently noticed at Cork.* The head and biliary system were more than usually affected.†

As the disease advanced it was observed in most or all parts of the province, that eruptions of different kinds either closely allied to, or varieties of, those termed petechial, very generally accompanied it. In some instances, the eruption was papular, or a motley appearance of the skin, or a rash somewhat resembling the measles showed itself. At Cork, Dr. M. Barry remarked that in the species of fever which he terms synochus, petechiæ seldom occurred earlier than the fourth or fifth day; but his observation, if it does not express it directly, at least implies that their occurrence was frequent. They were generally of a bright red colour, sometimes small, at other times large. He did not consider them dangerous, nor find it necessary to abstain from those measures of depletion, which were useful when high excitement prevailed. In a communication from Clonmell, Dr. Fitzgerald states, that petechiæ occurred in four cases out of five. At Fermoy petechiæ appeared very generally among the poor.‡ At Kinsale a red rash, we believe of the kind above mentioned as resembling that of the measles, was common, and petechiæ were more inclined to be red than brown in that neighbourhood.† At Listowel petechiæ were so common, that Dr. O'Connell did not see six cases of fever unattended by a petechial eruption, which often appeared early in the disease. The frequency of petechiæ was noticed also at Waterford, as well as of the erup-

* Dr. Beamish. † Dr. Baldwin. ‡ Dr. Campbell. § Communication to provincial inspector from Drs. Beamish and Bishop.

tion resembling measles already mentioned.* The frequency of an eruption resembling measles was noticed at Bandon by Dr. Clarke and Dr. Jenkins. At Clonmell petechiæ were common even amongst children,† in whose cases this eruption was not indicative of peculiar danger, but, on the contrary, often attended a mild disease. It was observed in the neighbourhood of Tramore, and we believe the same to have happened in every part of Ireland, that one member of a family had petechiæ and aggravated symptoms of typhus, whilst the relatives in the same room had fever in the mildest form.‡ In many instances, particularly in the more advanced stages of the epidemic, the lungs were observed to suffer, as at Fermoy, Listowel and Mallow, according to the authorities already quoted, but both at Cork and at Ennis, places very remote from each other in this province, the lungs, at least at the commencement of its epidemic progress, were but rarely affected in this fever. As the epidemic advanced, gastric symptoms were observed, and mention has been already made of the frequency at this time of dysentery, which in many parts of Munster kept pace with fever. Dr. Grogan of Limerick remarked, that pains resembling those of rheumatism were common; and he also noticed a symptom which there is reason to believe was not unfrequent in most parts of Ireland, namely, that the tongue, which in most febrile diseases is white or altered in colour and other appearances, in many cases exhibited no morbid change, and remained moist and clean during a great part of the disease. From the same authority we learn that increased heat of the surface, which is generally considered to be peculiarly characteristic of fe-

F F 2

* Waterford physicians. See Dr. Bracken's report. † Dr. Eagle.

‡ Dr. Water's communication to the Medical Inspector for Munster

ver, was in many instances at Limerick altogether wanting; this absence of the usual febrile heat is observed in the worst kinds of fever.

As will be found generally to happen, those persons who enjoyed the comforts of life had the disease in a less regular form than the poor, a fact which corresponds with the greater mortality from fever among the more elevated classes.* At Skibbereen, in the month of September 1818, the disease was reported to have changed its type from that of a mild fever to the true typhus, running its course of fourteen days. But as the disease advanced it became mild in every part of the province. Thus, at Tralee, it became so mild in the summer of 1819, that Dr. Mawe, the physician to the hospital in that place, had 361 fortunate cases in succession under his care.

The mean duration of fever appears to have been very irregular, at least during the first year of its epidemic existence. Thus at Mallow and in its vicinity, previous to November 1817, fever was often protracted to a number of days varying from seventeen to twenty-one; or it seemed gradually to decline after the seventeenth day. At Ennis its course was limited to eight or ten days, when curative means had been early employed; but when these had been neglected in the early stages, the disease was protracted to a greater length of time, extending from eleven to twenty-one days.† As the epidemic advanced, the duration of the fever in individuals was shortened, and when it approached its close, a fever of five days duration became very general, and at the same time relapses were very frequent, particularly in those who had been the subjects of this short fever.

* Dr. Campbell, Fermoy.

† Dr. O'Brien and Mr. Castles.

In the earlier periods of the epidemic it was observed, that the fatal event frequently happened on the eleventh day.* Very copious information on this subject may be obtained in the Report of the Fever hospital at Waterford, given at p. 215, and seq.

As to the time and mode of crisis, it was observed at Cork that the favourable change, for the most part, occurred between the seventh and fifteenth days of the fever, and was accompanied by profound sleep, universal soft perspiration, turbid urine and alvine evacuations of a natural appearance.† In many instances no critical evacuation was observable, more especially when mercury affected the mouth.‡ The mode of crisis at Tralee has been already detailed at p. 154. At Fermoy the disease in general abated gradually, but sometimes by diarrhœa or profuse perspiration.§ As its epidemical existence approached a conclusion, the disease terminated in individuals by a gradual abatement of all the symptoms on the fifth or seventh day. Such was the report of Dr. M'Carthy of Skibbereen in July 1818, who adds, that "it is at this time the mildest epidemic typhus I have ever seen or read of: it requires no active medical treatment, but it is extremely contagious, and relapses are very general. See also p. 201. Previous to the month of September, in the town of Kinsale and its vicinity, crisis most commonly took place on the ninth day, with easy sleep, abatement of heat of skin, gentle perspiration, soft full pulse and slower respiration ||

From these accounts it appears that the disease declined in most respects as fever is usually observed to do, with this

* Dr. Hallaran, Cork. † Dr. Gibbings. ‡ Dr. Dancer and Mr. Kingsley. § Dr. Campbell. || Dr. Bishop.

difference, that abatement of symptoms was less frequently attended by critical 'evacuations than is generally observed in ordinary fever; in the latter periods of its epidemic existence, such evacuations were more frequent. For a full detail of the symptoms peculiarly indicative of danger, we must refer our readers to the reports given in the preceding part of this work, as a minute account of such symptoms would be little more than a repetition of those, which, in fevers of a bad kind, are known to precede a fatal termination. We select the following, as appearing to belong more especially to this epidemic.

The frequent determination to the brain, sometimes ending in delirium, not unfrequently of a violent kind, has been already noticed. In a report from Dr. Poole and Dr. Bracken of Waterford, for November and December 1818, it is related that symptoms of a peculiarly malignant character showed themselves in some cases, and in a few hours terminated fatally. Of these the most remarkable was a purple appearance of the tip of the nose, quickly succeeded by large patches of a similar nature on the arms, which rapidly extended over different parts of the body. Moreover, a purple colour of the extremities was observed in some patients in several parts of the province.

The proportion which the number of severe cases bore to these of an ordinary kind was found to vary much in different parts of the country, and no precise estimate has been formed for the whole province.

At Clonmell in, June 1818, the physicians who attended the hospital of that town stated, that the number

* Mr. Eames, of Castlemartyr.

of cases of simple continued fever was to that of typhus mitior as 5 to 2, and of typhus mitior to typhus gravior as 16 to 1, but the proportion of the latter to the former species at the time of this observation, was gradually diminishing. When the epidemic fever first made its appearance, many were attacked with tumors of the parotid glands; they were young subjects. The suppuration always proved critical.* The valuable communication from Dr. Milner Barry of Cork to the editors, referred to at p. 298, puts it in their power to give an account of the varieties of fever as it occurred in that populous city. Dr. Barry relates that the disease presented itself under different forms, which he arranges under the following heads: "1. Synochus; 2. S. Cephalica; 3. S. Pulmonica; 4. S. Hepatica; 5. S. Gastrica; 6. S. Enterica; 7. Typhus gravior; 8. Typhus mitior; 9. Febricula." From the arrangement which Dr. M. Barry here adopts, it is evident that a determination to particular organs was at Cork as at other places, of frequent occurrence. "When the disease appeared under the form of synochus, together with those symptoms which are general attendants of fever, namely, headach and pains of the limbs, the digestive organs were much disordered in young people, as appeared from swelling, pain and tension of the epigastrium; pain of the abdomen also occurred about the arch of the colon, often attended by vomiting. The heat of the skin ranged from 98° to 100°, and seldom rose higher. The pulse varied from 96 to 108, was sometimes quicker, and mostly full and strong." The occurrence of petechiæ of a bright red colour, in this form of the disease, is already mentioned. The *typhus gravior* Dr. M. Barry describes as follows:—"Under the designation of typhus gravior I would therefore class a number of symptoms, which were merely continuations

* Dr. Waters, Waterford.

of those already described under the head of synochus, which symptoms, if not arrested by active measures in the first stage, passed into those of typhus gravior, under which form the disease most frequently occurred in private practice. The worst symptoms of this variety were painful headach, sometimes diffused pretty equally, sometimes referred to the back of the head, often to the forehead and temples. The patient also exhibited considerable suffusion of the eyes, and dullness or discoloration of the tunicae adnatæ. The pulse was often scarcely above the natural standard, but generally varied from 108 to 120, in the early part of the disease, and was mostly of sufficient strength. It was often accompanied by delirium of a violent kind, in its early stages, or low and muttering, when the disease was more advanced. Subsultus tendinum, and general convulsions,* were also common, which carried off the patient frequently soon after his admission to the hospital. In some of the worst cases hiccup took place, and in two cases, which fell under my observation in private practice, this symptom continued for several days, without exhausting the patient. Tremors, partial or general, with jactitation, also occurred. Breathing was often laborious, even in the earlier part of the disease, and in the more advanced stage the anxietas febrilis was very common. One of the most distressing symptoms was want of sleep, or sleep which was not refreshing. In the advanced periods of the disease the stools and urine were passed unconsciously; these were rare symptoms in the hospital, but more common in private practice. In the hospital few cases of re-

* We have reason to believe, when fever occurred among the upper ranks of society, and terminated fatally, that convulsions often attended the close of life. Such a termination was noticed in several fatal cases in Dublin.—Editors. (See Medical History of Leinster.) Such convulsive fits were also observed at Linerick.—Dr. Harding.

tention of urine, requiring the use of the catheter, occurred; but the urine was in some instances suppressed. Dysphagia occurred in a few cases, both in hospital and in private practice."

"Aphthæ were almost peculiar to patients in the better classes of society, and were rarely to be met with in fever previous to the commencement of the present epidemic. They were most common in pale relaxed persons, somewhat advanced in life, and who had suffered from hepatic diseases, or other debilitating causes. These aphthæ probably extend to the stomach, as may be inferred from the soreness produced by external pressure. In typhus, their approach may be known by the appearance of the tongue, which is at first pale and flabby, or of a deep red colour, and subsequently exhibits a dark brownish crust, of which there is a thick coating in the middle. The appearance of these aphthæ on the throat was in pustules, sometimes distinct, but often entirely confluent, and of a pure white colour. *Typhus mitior* was another very prevalent form of the disease. Its chief character was very great debility, cool skin, headach, in some instances measly rash, with petechiæ of a dark colour, also petechiæ without the rash. The debility was generally greater with the rash than when it was not present. I have known the debility so great that the smallest evacuation even from an enema could not be borne without syncope. *Febricula*,* or a species of fever of from one to three days continuance, was another form of the epidemic. In this form the symptoms were very slight, and the disease soon terminated under the use of cathartics and diluents." Such is the account given by Dr. Milner Barry of the principal varieties of fever, as it appear-

* Of this species, but of somewhat longer duration, the cases were very numerous, particularly during the latter periods of the epidemic.—Editors.

ed in Cork, which in all the more prominent features corresponds with the representation of the disease, as given by our informants in other parts of this province, and indeed with the disease under its usual form, for it differed from the ordinary fever from which this country is never altogether free, principally in the degree of its frequency, and occasionally in severity; but in other respects the variation was but slight. A jaundiced appearance of the skin and eyes was observed in many patients in Cork, but we could not learn that this was attended by the symptoms characteristic of the yellow fever of hot climates, nor was it accompanied by any peculiar danger. If any distinctions were to be sought for between this and the ordinary fever of Ireland, they can be found only in the more frequent determination to the brain, general irregularity, or want of correspondence of the symptoms of disease in each patient, and this only in the severe cases, and the more frequent occurrence of purple extremities, and of yellowness of the skin and eyes. It cannot, however, be denied, that the comparative frequency of such symptoms, in the epidemic and ordinary fever of this country, has not been yet sufficiently ascertained to justify a decisive inference.

As to the rate of mortality in different parts of this province, the statements given at p. 190, of vol. 2, of the deaths in the principal fever hospitals of Munster, according to the reports of the Medical Inspectors of the provinces, will afford sufficient information. It is obvious from the table, that the mortality among those, who were the subjects of hospital treatment, was inconsiderable, but in the upper ranks the infrequency of disease was more than balanced by increased mortality. Dr. Hallaran remarks that, when it visited a family of this class, it rarely failed to prove fatal to one of its members. This was noticed chiefly at the commence-

ment of its epidemic existence. "The unfortunate result of some of the early cases of fever in the upper ranks," observes Dr. Osborne, "created just alarm in Cork, and was so far beneficial as to call forth exertion, from motives of self preservation, as well as for the relief of the infected."

Its fatal consequences among those who enjoyed the comforts of life, may be estimated by its effects on the physicians in Cork, who were engaged in the duty of inspecting the city, searching out the cases of fever, and sending them to the fever hospital. "Of twelve of these," says Dr. Osborne, in a letter dated August 1819, "eleven suffered an attack of fever, of whom four became its victims. At Fermoy, among the upper ranks, one-third died :* this is nearly the same proportion of deaths to recoveries as among the physicians of Cork. It deserves remark that the mortality at Waterford, among persons of the higher class, is stated to be nearly the same as at Cork, or to amount to a number exceeding one-fourth of the attacked. Thus, in three places of this province, considerably distant from each other, the number of persons who died is stated to have ranged between one-third and one-fourth of the total number attacked in the upper ranks. We may therefore adopt this number as that of the average mortality among persons of this description. But in some parts of the province fever was even more fatal among the upper classes than here mentioned. Thus, in Roscrea, and the neighbourhood, previous to June 1818, the majority of persons attacked with fever died.† But in every instance the great mortality observed in the upper ranks applies to adults only, for children in all classes of society very ge-

* Dr. Campbell, Fermoy, letter dated November 12th, 1817.

† Dr. Dancer and Mr. Kingsley.

nerally recovered. Pregnant women labouring under fever, admitted to the hospitals of Cork, were frequently observed to miscarry, but very few or none of them died.* It was observed also at Cork, by the physicians in attendance on the hospitals, that when blacks were attacked they rarely recovered. It is well known that Negroes are as susceptible of the contagion of fever as whites, and the foregoing remarks, together with observations made in other hospitals, would seem to show that the fever of this country is more destructive to the Negro than to the European.

Dysentery, a disease closely allied to epidemic fever, and generally an attendant on it, at least in this country, showed itself in many parts of Munster at this time. In the latter part of the summer of 1818 it was very prevalent at Waterford; it began about the month of August, and continued during the greater part of autumn. Many persons of all ranks were attacked, and it was very fatal. It was said to be complicated with inflammation.‡ At Lismore it often succeeded fever, and proved fatal.¶ It appeared at Dungarvan in the autumn of 1818.§ At Skibbereen, in the county of Cork, an inflammatory dysentery was also observed. About the same time Dr. Macarthy, of that place, describes it in these terms:¶—"Its character, like that of the fever, is highly inflammatory, and if not met early by copious venesection, it produces such injury to the inner membrane of the intestines, as to render it one of the most distressing and unmanageable diseases with which I am acquainted. In general the same class of persons who had suffered from

* Dr. Sharkey. The same remark was made in the hospitals of Dublin.

‡ Dr. Hammond.

¶ Dr. Quinlan.

§ Dr. Gleeson and Dr. Quinn.

¶ Letter dated March 12th, 1819.

fever invariably suffered from the present dysentery." During the autumn of 1818 it was very prevalent at Bandon. It was observed that weavers were most subject to it: their practice of working on damp floors, to which they give a preference, was supposed, with much appearance of reason, to encrease their liability to this disease.* It prevailed also in Limerick.† In Tipperary dysenteric attacks, and inflammatory affections of the intestines, very much accompanied and followed the fever.‡ Dysentery prevailed at other places in the county of Tipperary, as at Clonmel, Roscrea, and Clogheen.¶ There was scarcely a house in Clonmel in which dysentery did not prevail.§ It succeeded the fever very generally, and proved mortal in many instances, particularly when it attacked persons previously debilitated.¶ It seems to have been most prevalent at inland places, chiefly those situated on the banks of rivers, as at Waterford, Clonmel, Cork,†† Carrick-on-Suir, and Limerick; and the mortality caused by the disease appears to have been greater in such situations than in others, particularly those on the sea coast. From information given by Dr. Davies, of Mallow, "a formidable bowel complaint appeared in the month of March 1818 at that place, and continued to the end of June; its ravages were principally among the convalescents in the hospital, which was then in an extremely crowded state. It appeared unconnected with the fever, as numbers of the higher classes who had not been attacked by fever, were severely affected by it, but it proved fatal only where the subjects were reduced by previous disease. It appeared contagious. A patient who seemed rapidly recovering was, on the next day, seized with constant purg-

* Dr. Jenkins.

† Dr. Grogan.

‡ Dr. Armstrong.

¶ Letter from Dr. Eagle to Dr. Renny.

§ Drs. Fitzgerald and Philips.

¶ Dr. Bell and Dr. Fitzgerald.

†† Dr. Peebles and Dr. Cantillom.

ing of brown, watery evacuations, similar to the colliquative diarrhœa in phthisis, frequently attended by profuse perspirations, and sometimes by straining to vomit, flushed cheeks, quick pulse, tongue generally clean, though sometimes brown and aphthous; wasting rapid in the extreme, in so much that on the 3d or 4th day the patient appeared as if in the very last stage of phthisis pulmonalis; no cough, griping, tenesmus, bloody evacuation, seybala, or any symptom whatever of dysentery; no soreness or tension of the abdomen. Opium in large doses; a grain every three hours was the only remedy from which, in a few cases, a beneficial result was obtained." The occurrence of this formidable disease, which was different from dysentery, and was rather allied to cholera morbus, will sufficiently explain the considerable mortality which took place in the fever hospital of Mallow, during the spring and summer months of the year 1818. The mortality at Limerick also was caused principally by diarrhœa or dysentery.*

In some places, besides the usual debility, other consequences of this fever were observed, such as severe pains of the joints, œdematous swellings of the extremities, phthisis,† abscesses in various parts of the body, gangrene of the feet, and sloughing of the nates.‡

As the epidemic advanced, and particularly in its latter stages, relapses became very common, in so much that a very large proportion of those who had been attacked suffered a relapse, and with many this happened several times. At Cork the number of persons who relapsed was estimated at 2000.‖ At Skibbereen and its neighbourhood,

* Dr. Grogan.

† Dr. Gallway, Mallow.

‡ Dr. Dancer and Mr. Kinsley, Roscrea.

‖ Dr. Barry.

in the month of July 1818, relapses were so frequent that they occurred in almost every case of the disease, which was confined to the poor principally at that time.* The frequency of relapses was noticed also at Cove,† Bandon,‡ Kinsale, Youghal, Fermoy, and Mallow. At Bandon the greater part of the deaths from fever were caused by relapses. Thus it is evident there was a strong tendency to relapse after this fever, through the whole of the county of Cork. The disposition to relapse is noticed in the report of Waterford, and as Dr. Braeken has informed us that relapses amounted to at least one-fifth or one-sixth of the total number of those who sickened, consequently they were not less numerous in Waterford than in the city of Cork, or in different parts of its county. In other parts of the county of Waterford, as at Tallow,§ Lismore, Dungarvan,¶ Cappelquin, relapses harassed the sufferers, and aggravated the distress arising from this fever. We may therefore infer that relapses were equally frequent in every part of the county Waterford. In the county of Kerry they were very frequent, as at Killarney,‡ and in its neighbourhood, likewise at Tralee,** and at Lis-towel, throughout its whole course.†† At Limerick, and in its vicinity, relapses appear to have been frequent throughout the whole continuance of the epidemic. Relapses seemed most frequent among the males.‡‡ They took place also at Clonmell, Tipperary, Cashel, Cahir, particularly during the latter periods of the epidemic, in the county of Tipperary. At Clonmell, as at Bandon, relapses were reported to be often fatal, and generally more dangerous than the original attack.‡‡‡ This was contrary to general experience. At Carrick-on-Suir also, the patients

* Dr. M'Carthy.

† Dr. Millett.

‡ Dr. Jenkins.

§ Dr. Hannan.

§ Drs. Gleeson and Quinn.

¶ Dr. M'Donogh, and the Physicians of Killarney.

** Dr. Mawe.

†† Dr. O'Connell.

‡‡ Dr. Carrol

‡‡‡ Mr. Burgess.

were much disposed to relapse.* These facts show the frequency of relapse throughout the county Tipperary. In the county of Clare patients do not appear to have relapsed so frequently as in other parts of Munster, at least there is not evidence of the same tendency to relapse in Clare as in other counties of this province. The disease was also observed to recur at distant periods in some instances, in different parts of Munster. With few exceptions, this tendency to relapse did not occur till towards the latter periods of the epidemic. Thus, at Waterford, in September 1817, relapses were reported to be rare.† Neither were they frequent at Kinsale previous to October 1817; and at Fermoy also they occurred but rarely previous to November 1817.

It was remarked at Roscrea that the more early the crisis occurred, the greater was the probability of relapse. This observation will apply to every part of this province, for as the epidemic fever approached to a close, a fever of short duration continuing for about five days, extremely mild, and rarely proving mortal, became very frequent, and at this time the tendency to relapse was most observable. On the contrary, after fever of long continuance, it rarely happened that relapse took place. Relapses were attributed to various causes, to irregularities in diet, to want of sufficient care and food; but from having observed them to take place under various circumstances among persons who received every attention, and who were sufficiently fed; having also observed them uniformly prevalent among those persons who had been affected with a fever of short duration; we are disposed to consider such relapses as forming a part of this variety of epidemic fever, and to be expected whenever the same or similar circumstances shall arise. Weakness

* Dr. Williamson.

† Dr. Mackesy.

of intellect was observed as a consequence of fever at Limerick, in several instances.*

The treatment adopted in different parts of the province was conformable to the above described symptoms. In the commencement of the attack, there was much determination to the brain, and accordingly we find that in most parts of the province the depleting system was practised either by general blood-letting or by opening the temporal artery, or drawing blood from the head by means of leeches. At Waterford the chief objects of attention were the head and the bowels,† and one of the physicians of that place found that in young and vigorous subjects previous to the fourth or fifth day, and when indicated by local affections, bleeding, continued till delirium approached, was useful in the early stages of the epidemic.‡ In most parts of the province the evacuating and antiphlogistic plan was adopted. At Mallow it was reported that all bore evacuations well; the use of the lancet, however, was not persevered in, but leeches were substituted.§ At Fermoy, Dr. Campbell observed, “that flushing of face, inflamed eyes, delirium, subsultus and coma, appeared rather early in the disease, and these symptoms often yielded to blood-letting from the temporal artery.” Dr. O’Leary of Kanturk relates, that in one case, in which the back was covered with red petechiæ, and much determination to the lungs existed, he took blood to the extent of 18oz. with considerable relief at the time, and he had used the same remedy in other similar cases. At Killarney, bleeding from the temporal artery was found to be useful. At Kinsale, in the latter part of September 1817, the most decided advantage

VOL. I.

G G

* Dr. Harding.
Galway.

† Dr. Lanphier.

‡ Dr. Mackesy.

§ Dr.

resulted from full bleeding, free purgation carried on for some time, mild drinks, and cold applications; and where the depleting system had been acted on, a single patient was not lost.* This method seems however to have been used principally or exclusively in the first stages of fever, and when prescribed at the later periods a protracted recovery has taken place.† At Ennis, previous to the middle of September 1817, blood-letting at the commencement was found to be the best remedy, without regard to the smallness of the pulse, which usually rose after the operation; and the headach was much relieved by it.‡ In Tipperary the system of blood-letting does not appear to have been carried so far as in other places. Bleeding by leeches was however found useful.§ At Clonmell blood-letting was resorted to in the practice of one gentleman|| of that place, to an extent not exceeding 10oz. in most instances topical bleeding was employed when indicated by the symptoms. From these examples it plainly appears, that the detraction of blood was very generally practised in this province, and with good effects in the early stages of the disease, but in the more advanced stages its benefits were doubtful, or it seemed injurious. At Roscrea large evacuations of blood from the temporal artery were found very useful in the hospital.¶ With this part of the evacuating plan was combined the use of purgatives, and calomel seems in most instances to have obtained the preference. A purgative was given either every day or every second day, with occasional enemata. The practice of administering purgatives in fever, happily for this country, being established by Dr. Hamilton before the epidemic appeared, was universally followed throughout the province. In many places the mercurial practice was adopted, that is mercury, generally in

* Dr. Bishop † Ib. ‡ Dr. O'Brien and Mr. Castles.

§ Dr. Armstrong. || Mr. Burgess. ¶ Mr. Hargrove.

the form of calomel, was given to affect the system. As to its success, a diversity of opinion prevails. It seems to be pretty generally allowed, that when the gums became affected, fever either immediately or soon thereafter ceased; but the evidence that this effect was usually obtained in the severe cases is by no means clear, and that great debility often succeeded the practice is very generally admitted: it is also well known, that a very large proportion of the cases would have recovered without the use of this remedy. On this subject we introduce some remarks from Dr. Milner Barry of Cork; he observes, that "there are two purposes for which calomel is exhibited:—1st. As a cathartic or as an adjuvant to a cathartic. 2d. As a specific, to be administered till it produces its usual mercurial action on the system, and thus cuts short the fever. As a cathartic I," says Dr. Barry, "have constantly exhibited calomel with other purgatives, and with effects decidedly beneficial. But I have the strongest reason to believe that it is of no manner of benefit in cutting short the disease. I have repeatedly had under my care cases of fever, where the contagion was received notwithstanding the patient was actually under the influence of mercury; where a ptyalism had commenced or where the gums were already very sore. A young physician having his head filled with the mercurial practice, was seized with typhoid symptoms, and immediately commenced taking very large doses of calomel, so that his gums became extremely sore. He soon after had swelled tympanitic belly, and died: I also saw Mr. — of this town, he had got 52 grs. of calomel in three days. His mouth became sore and ulcerated with that peculiar odour which mercury produces. Hardened fæces were discharged, and on the 13th and 14th days of his illness it became impossible to empty the bowels, which swelled up in the same manner. He died on the 16th day after copious

evacuations had been produced and still under strong mercurial action."

Dr. M'Carthy of Skibbereen found the salivating system injurious, and generally unnecessary. At Mallow apyrexia was often observed to follow the mercurial treatment of fever, but the subsequent debility was singularly great.* The author of this observation remarks that "on the whole the mildest and simplest treatment seems to be the most generally successful, and the result of a certain Lady Bountiful's practice forms its best commentary. She begins with an antimonial emetic; the patient is washed every morning with soap and water, gets every second day half an ounce of sulphate of magnesia, on the seventh day a blister to the neck, and if necessary some diluted wine, this seldom and sparingly: of 120 in fever, treated after this mechanical plan, not one died." Statements on the other side in favour of the curative effects of mercury have also been obtained. Thus at Roscrea previous to June 1818, it was observed that when the mouth was affected by mercury, the patient uniformly began to amend, and the disposition to relapse was diminished.†

In Waterford, calomel was given by one physician,‡ so as to bring on ptyalism, with considerable success, particularly in cases of continuance of the fever for some time. If local affections required it, leeches were first applied, then blisters, and, if relief was not obtained, calomel was then given freely.

Dr. Davies at Mallow found that the most efficacious mode of treatment was decidedly the mercurial, getting the system as speedily as possible under the influence of

* Dr. Galway, Mallow.

† Dr. Dancer and Mr. Kingsley.

‡ Dr. Mackesy.

mercury, and he states, "that ptyalism invariably puts an end to febrile action." He adds, however, "that under this treatment, occasionally, long continued cases of ptyalism occurred, especially among women, and as the object was to make room in the hospital for patients as quickly as possible, after the first six months, mercury was given only occasionally, combined with purgatives and saline diaphoretics." On the appearance of the bowel complaint above described by Dr. Davies, "mercury and drastic purgatives were entirely withheld, but without making any alteration in the number of persons affected with that disease." Besides the remedies here mentioned, others were generally employed. Blisters were used when topical affections required their application, but we have not obtained any evidence of their efficacy; we must therefore refer to their acknowledged effects in fever. The cold affusion was occasionally practised, but we do not find that much benefit was derived from it, except as a means of temporary relief. In many instances its adoption was contraindicated by the presence of local inflammation, particularly of the lungs, and it does not appear as a means of cutting short fever that this remedy was very efficacious. Cold applications to the head were beneficial in cases of determination to that part.

The application of water, either warm or cold, with a sponge, to the whole surface, was occasionally employed with benefit. Diluents were freely given, and towards the latter stages of the disease wine in small quantities, where great debility called for its use. In some instances, as at Cappoquin, eider was given to the poor with benefit.* In this account of the medical treatment of fever in Munster, we should not pass over the advantages obtained from the free admission of cool and fresh air; this with the ob-

* Mr. James Allen.

servance of cleanliness, changes of linen and of bed clothing, constitutes, perhaps, the most important and beneficial part of the curative means employed in hospital. Of the good effects derived from cool and fresh air in fever, the poor in some remote parts of the province showed their conviction. In many instances, as already stated, separation of the sick from the healthy part of the family was obtained by transferring the sufferers to small huts constructed for the purpose. We are informed by Dr. Jenkins, that in some places contiguous to Bandon, these huts were at first placed in the corners of the fields; but experience soon pointed out the advantage of free ventilation, and the huts were then constructed at the sides of the fields, with openings to admit the air at the east and west of these rude structures, and it has been asserted, that after the adoption of this change, few patients so lodged died in that part of the country.

Inquiry has been instituted as to the use of some popular remedies, reported to be efficacious in the cure of fever. One of these deserves notice, namely, a decoction of the *centaurea nigra* or black knop. According to the account of Dr. O'Leary, it was first used in this province by Mrs. Drew, in the neighbourhood of Cappoquin. It was employed extensively in the country around Mallow, but not by the advice of physicians. According to Dr. Galway's report, "the plant is most active and bitter before it buttons, which is the proper time to pull it for use. Of a saturated infusion prepared in boiling water, a wine glass may be taken three times a day. It will affect the stomach, bowels, or skin, if taken in sufficient quantity; but few patients will repeat it from its nauseousness." Dr. Galway's opinion was in its favour. It was tried in other parts of the country, but the accounts of its efficacy were not satisfactory.

The preventive means resorted to throughout Munster have been so frequently mentioned in preceding parts of this work, that copious details in this place would be altogether superfluous; patients who sickened, either in the towns or in their vicinity, were very generally removed to hospitals. These were either fitted up at the time to meet the emergency, or had been previously established. In several towns, as at Waterford, Lismore, Cork, Cove, Youghal, Tipperary, Kinsale, Mallow, Limerick, Carrick-on-Suir, and a few other places in the province, the clothes of the patients removed to hospital were either immersed in cold water or washed, and afterwards exposed for a considerable time to the air. In some instances the system of cleansing was extended even to the clothing of the patient's family. Infected bedding and straw was often burnt, as at Mallow, and fresh straw supplied. In some few instances, as at Cork, coals were furnished to poor families amongst whom fever had appeared, which by promoting cleanliness, ventilation and comfort, must have proved a valuable preventive.* The apartments of the patients removed to hospitals, or indeed of the sick where no hospitals existed, were very generally washed with quick-lime diffused through water, and in some instances, as at Clounell, the floors and walls were scraped previous to this operation. Fumigation with chlorine, or with nitrous acid vapours were also in many instances employed.

The necessity of extraordinary measures to destroy infection adhering to houses and furniture, is strongly proved by numerous facts which have come to our knowledge. Thus at Limerick, persons were constantly observed to come from the same apartments, labouring under fever, at

* Dr. Peebles and Dr. Cantillon.

intervals of one, two or three months;* and the same house at Cove has been known to yield fever patients for two years in succession. At Cahir a plan was followed with some houses of the poor, which, from its success, deserves particular attention. After the removal of the patient to hospital, the usual modes of cleansing and purification were resorted to, the dwelling was then vacated, and the family prevented from sleeping in it during eight or ten days, and this was found more efficacious than any other practice adopted for the purpose of destroying infection.†

As to the general success of the above measures it is difficult to decide. In many places the preventive system was practised imperfectly from want of sufficient means. This was the case in remote parts of the country chiefly; in the larger towns, the continued intercourse of the inhabitants with each other must have interfered with efforts the best directed, and in many instances have rendered them abortive.

At Limerick, however, it was supposed that nitrous fumigations and the use of washing with lime had diminished the frequent occurrence of fever in the same houses: and in June 1818, such had been the success of preventive measures in Waterford, that, from 1102 houses, white-washed, fumigated, and ventilated by the Committee appointed for these purposes, only four cases of fever had been sent to the fever hospital up to that time, when the great majority of sufferers from fever received the benefits of that institution.

As the epidemic fever drew to a close, its symptoms

* Dr. Carrol's communication to Editors, dated August 1819.

† Mr. Beale, Cahir.

became mild, though it still exhibited a strong tendency to spread through families, and in the months of February and March 1819, when Munster was inspected by one of the Editors, fever was reported to have declined greatly, or to have ceased in most parts of the province; and in the course of the following summer, its existence as an epidemic may be said to have terminated in the south of Ireland. As its termination approached, scarlatina appeared in some parts of this province. In the larger towns of Munster, as in other parts of Ireland, cases of fever are at all times to be met with; but it deserves remark, that at Cork scarcely any person has been seized with fever who suffered an attack during its late epidemic existence.*

From the account here given of the progress and treatment of fever in Munster, the following conclusions may be deduced:

1st. That the causes which rendered fever epidemic, were in Munster the same as in other parts of Ireland.

2d. That its symptoms were in general those of ordinary fever, but that local determinations, particularly to the brain, were more frequent than usual, and that petechial eruptions were also of very frequent occurrence.

3d. That it was attended with dysentery in the season when that disease usually prevails, particularly in the autumn of 1818; and that relapses were very frequent, more especially as the epidemic approached to a termination, when also its symptoms became very mild.

4th. That the remedial treatment found successful

* Dr. M. Barry.

in most parts of the province in the early stages of fever, appears to have been that of depletion.

5th. That the efficacy of the prophylactic means now most generally approved, namely, the separation of the sick from the healthy, and the ventilation of dwellings, and cleansing of apartments and clothing, is recognised by the general practice of the medical part of the community.

SECTION III.—PART II.

CONAUGHT.

FEVER extended itself over the whole of this province, and the boggy mountainous districts suffered most from its effects. The disease became epidemical in 1817, and in most places in the early part of that year, and so continued for about two years.*

Fever was in general introduced into the families of the poor by mendicants, or by those who had been visiting their sick neighbours; but its nature was seldom understood, more especially in the early part of the epidemic, and the illness was attributed to over fatigue, cold, or wet, which were its most common exciting causes. When brought into a cabin, it generally affected every one of its distressed inhabitants, and as we learn from Dr. O'Ferrall of Elphin, this visitation continued for two or three months, some one of the family lying in fever during the whole of that time.

* See p. 52, and vol. 2, p. 80, 86, 97, &c.

Dr. Crampton, who inspected the province of Connaught, asserts, vol. 2, p. 100, that fevers in that province, during the epidemic, had two sources, one spontaneous, the other from contagion, an opinion which, he says, was entertained by most of the intelligent practitioners in the principal towns of Connaught. In a valuable communication from Dr. Little of Tuam, sent to the Editors of the Dublin Hospital Reports, &c. we find the following passage, which, as it tends to confirm Dr. Crampton's assertion, we here quote:—"The uniformity of symptoms, during the progress of the disease, has been so striking in a very large proportion (I should think three-fourths) of the cases that have, during the last three months occurred, that I feel disposed to separate these cases from the remaining one-fourth, and give to the former the name of the epidemic fever, to the latter that of typhus. For although the former has been of a typhoid type, still some circumstances have appeared to distinguish it from typhus as usually occurring, especially the apparent absence of contagion; for in many houses one person lay affected with the epidemic, and not another individual in the same house, nay room even, became affected by contagion with the disease, whilst in the range of cases, which I would call typhus, the families have been all affected, father, mother, children, servants alike, and the epidemic appeared to me as universally occurring among the miserably poor, who, during the last remarkably severe season, have not had a sufficient quantity of nutritious food, whilst their necessities led them to over labour. On the other hand, typhus appeared to owe its origin to contagion, as might have occurred in any ordinary season, and to affect principally the better sort of poor, who had not suffered privations of any kind; hence the instances of the existence of single cases of the epidemic in the working person, as the father of the family, the whole remaining family being frequently un-

affected, whilst when typhus appeared it ran its course through all exposed to its contagious influence."

The advance of fever was often so gradual that the sick were able to walk out, and transact business as usual for several days, the disease resembling a common cold; but this catarrhal affection was, in some instances, severe in the commencement of the epidemic. In such cases the respiration was laborious, the cough exceedingly troublesome, and the sputa tinged with blood, and with these symptoms there existed an early determination of blood to the head, evinced by headach and flushing in the first instance, and then delirium, which sometimes occurred so early as the fourth or fifth day. In these cases the affection of the lungs seemed to merge in that of the brain; the eyes were inflamed, the patient was affected with universal tremor, and the skin was moist without relief.

In general, however, the catarrhal symptoms were represented as slight, and the early determination to the head as the most striking symptom; listlessness, nausea, and rigors, were soon followed by flushing, violent headach, and suffused eyes; in the young and robust the delirium was generally violent about the seventh or eighth day; this, in the favourable cases, ended in continued sleep; in the unfavourable cases it degenerated into coma, with subsultus tendinum. From the 11th to the 17th day of the disease, a tympanitic affection frequently occurred, with pain on pressure, and obstinacy of the bowels. In some places, towards the conclusion of the disease, there existed pain and tension of the epigastric and hypochondriac regions, accompanied with vomiting, tenesmus, and with bloody and mucous stools, whilst in most places no symptoms of dysentery were observable. This diversity in the nature of the disease, in different districts of coun-

try, seems fully established. Dr. O'Donel, a very intelligent army surgeon, who was in the county of Sligo in 1817, assured one of the Editors that he had remarked a difference in the predominant symptoms of the epidemic, even in districts which were in contiguity with each other.

An early eruption of petechiæ, which were often to be observed on the third or fourth day, or even earlier, and were visible for four or five days, was a general symptom of the disease; when petechiæ appeared thus early they were not indicative of any malignancy; indeed they were sometimes observed in the mildest cases, and by several physicians their early appearance was considered as a favourable prognostic,* but the marbling of the skin, with dun and confluent maculæ, was a symptom of a dangerous import. There are various testimonies to this effect, for example, Dr. Little observes that, "in some of the mildest cases, the patients have, with surprise, pointed out to me the appearance of petechiæ, which seemed not to depend on any particular train of symptoms, not to mark a more severe disease, nor yet to forebode any ill consequences. A motley appearance of the skin, not very unlike the appearance of the skin on the day after the recession of the rubeolar eruption, attended a worse state of fever."

The disease at first generally terminated on the 11th, 21st, or some one of the intermediate critical days, in such cases as were not shortened by remedial treatment. It not unfrequently terminated on the 21st day, but seldom exceeded twenty-one days; fourteen days might be considered as its average duration. It often abated with-

* Dr. Hardiman, Galway.

out any perceptible crisis; when drawing to a conclusion the tongue uniformly became moist at its edges. Particular symptoms were relieved by discharges from organs by whose disordered functions such symptoms were chiefly caused: thus epistaxis relieved headach,* sweat the pungent heat of the skin, and mild diarrhœa the tension of the abdomen, and then the other symptoms of the disease gradually declined; but the disposition of the disease to end in sleep, without any very well marked critical discharge, was the most remarkable circumstance belonging to its termination. When sleep became continued, delirium abated, the pulse improved, the skin became soft, and free discharges took place from the kidney and bowels.

Relapses were so rare, at the commencement of the epidemic, that Dr. Vetch, Physician to the County Infirmary in Galway, in his letter of the 6th September 1817, says, that he had not observed one case of relapse out of some hundred cases of fever.

The following is a description of the disease, as it occurred among the upper ranks in Galway:†—Determination of blood to the head, accompanied with pain, flushing of the cheeks and ferrety redness of the adnata, generally succeeded the ordinary symptoms of languor, nausea, and shivering; delirium occurred early, and continued through the whole course of the fever; it was usually of the low muttering kind. In some cases, where the patients were young and robust, the delirium ferox was observed, which gradually degenerated into a comatose state, ending in death. Petechiæ were universal, in so much that scarcely a case occurred without them.

* In some cases, says Dr. Whistler, the cerebral excitement was greatly relieved by large spontaneous discharges of blood from the nose.

† Dr. Blake, in a letter to Dr. Perceval.

The first advances of disease were often so slow and insidious, that the patient was able to ride and walk about for three or four days after its commencement, and in such cases, notwithstanding every attention, the disease generally terminated fatally."

During the summer, autumn, and winter of 1817, the disease pursued the course which has been described; but in the spring of 1818, the lungs were more generally engaged; early in summer the disease became shorter, and relapses were frequent, crisis occurring more frequently by perspiration on the 9th, 7th, or even 5th day, and about this time it began to be remarked, that the earlier the crisis the more liable was the patient to relapse. As the year advanced, the short fevers, with relapses, bore a still greater proportion to those which were protracted to the end of the second or third week. In the beginning of 1819, the *five day* fever was general all over the province, and the epidemic was sensibly on the decline; with a few exceptions, the epidemic was considered as nearly over about the latter end of spring 1819.

The sequelæ of this fever never appear to have been formidable in the province of Conaught. Pulmonic affections, hepatic obstructions, dropsies, and mania, did sometimes occur, but they were rare, and the protracted debility, which sometimes ensued, seemed chiefly to have arisen from a want of the necessaries of food and clothing, without which recovery could not be expected to be rapid.

As the method of treatment is described at large in other parts of this work, it will not be necessary to enter into a detail of it in this place. The indications which guided the intelligent practitioners, who have favoured us with communications, seem to have been such as have now received the sanction of the most eminent writers on

the subject of fever, namely,—1st. by lessening increased arterial action, general or local, to promote a more equable state of the circulation;—2dly. To diminish the heat of the body; and 3dly.—To encourage the flow of the excretions.

The antiphlogistic regimen was universally prescribed by the regular practitioner in the early stages of the disease, during which emetics appear to have been employed by some; purgatives, a thorough ventilation, and diluents by all. Shaving, and sponging the head and upper part of the body with cold water and vinegar; blood-letting from the arm, when there were symptoms of pulmonic inflammation, and the application of leeches to the temples, with the opening of the temporal artery, when the head was much affected, are reported to have been highly serviceable.

There appears also to have been an agreement in the treatment of the advanced stages of the disease: with moderate purgatives, ventilation, and diluents, cordials and blisters seem to have been generally used. The minutiae of practice have not been specified by our correspondents. There are, however, some peculiarities, which require to be mentioned. One intelligent practitioner, in giving a preference to mercurial purgatives, seems to think that they had the best effect, when repeated, so as to produce ptyalism. Another, under the head of cordials, recommends musk, in doses of ten or twelve grains, as a safe and excellent anodyne; one of the Editors prescribed it in doses of a scruple, with seeming benefit. A third correspondent speaks of large doses of camphor, as having acted like a charm in relieving delirium; but in general wine to the wealthy, and punch and porter to the poor, seem to have been more confided in than the officinal cordials. In a great majority of the

cases of fever among the poor, nothing was given to the patient but water and whey, and a purgative; and under this method of treatment, in huts by the side of the public roads, made by means of a few sticks, thinly covered with straw, so as to form a rude shed over the patient, few individuals died.

It is remarked by several of our correspondents, that blood-letting was in great favour among the poor, and there can be little doubt that, by an ill timed and excessive use of that remedy, the patient's strength was often fatally prostrated.

We now conclude the medical history of Conaught, with an extract from Dr. Little's communication, already referred to.

“The plan which, with some modification, has been generally adopted under my direction, where patients have been presented early, is as follows:—

When nausea and vomiting were present, a solution of tartar emetic was given to produce vomiting, and afterwards, at longer intervals, to produce diaphoresis, or determination to the bowels. Where these symptoms were not most urgent, and where headach and tardiness of bowels were prominent, a purge of calomel and scammony was substituted; the use of medicine was then for a time intermitted. If headach was urgent, leeches were applied to the temples, the head shaved, and cold applications made use of to the scalp. If heat of skin continued, the diaphoretic mixture of aqua acetatis ammoniæ with vinum antimoniale was ordered; and frequent sponging with tepid and cold vinegar and water. The bowels, during this time, were opened every day regu-

larly, and if after the above detailed symptoms, determination to the head, with hot skin, still existed, blisters to the nape of the neck, and between the shoulders, with camphor, exhibited in mixture, and bolus, were found particularly successful."

"Sleep generally followed the application of the blister, and copious and general perspiration (usually excited by the camphor, exhibited while the bowels were free) attended, or seemed to produce a solution sudden, and generally permanent, of the febrile excitement."

"This hasty relation of the treatment details almost all that was necessary, and when resorted to, was generally successful. I am convinced that we have been more fortunate in this than in other parts of the country, in having more of the epidemic disease, and a smaller proportion of cases of pure typhus, and in this we have reason to rejoice, as in the present state of the country, our means for combating a more severe disease are indeed limited."

SECTION III.—PART III.

ULSTER.

IN many parts of this, the northern extremity of the island, fever was uncommonly prevalent and destructive. In the neighbourhood of Ballyshannon, in the county of Antrim, in some townlands, almost every individual was attacked previous to May 1818.* At Belfast it was computed that during three years preceding July 1820, 3000 persons, or a number equal to one-tenth of the population of that town, had been attacked in each year; and it was ascertained by calculation, that about one half of all the sick males were labourers and weavers.† At Monaghan, in the month of September 1817, scarcely a house of the poor classes could be found without four or five persons ill of fever.‡ The letter from which this extract has been made, concludes thus: “I feel myself very poorly to day, whether from the effects of excessive fatigue, or from the approach of this dreadful disease, I cannot say. For some days past I have visited daily, from

* Dr Crawford.
Dr. Purdon.

† Dr. M'Donnell communicated to Dr. Renny by
‡ Dr. M'Dowel.

one hundred to one hundred and fifty of my poor fellow creatures labouring under this visitation." For additional proof of its frequency we refer the reader to our historical sketch at page 84.

At first the fever was in general found to be most frequent among persons of the male sex. Thus at Downpatrick, previous to September 1817, the number of males affected with fever considerably exceeded that of females.* At Ballyshannon the proportion between the number of males and females attacked, was that of five to one. In some places, however, as at Antrim, fever was most frequent among females.† On its appearance as an epidemic it did not show a strong tendency to spread in families; on the contrary, it not unfrequently happened that one or two individuals only of a family were attacked.‡ This we believe to have been remarked in several parts of Ireland when fever began to prevail, and may have arisen from the great length of the latent period at this time, the communications relating to this topic having been made to us soon after fever broke out.

As to the duration of the latent period it is difficult to give any precise account. In some instances the attack has commenced within twenty-four hours after exposure.§ A fact observed in the vicinity of Ballyshannon seems to have some relation to this point. A tinker, who with his family had recently recovered from fever, stopped, working at his trade, at several houses between Donegal and Sligo; his route was easily traced by fever occurring at the several houses where he slept, and it generally made

* Dr. Nevin,

† Mr. Bryson

‡ Dr. Atkinson.

§ Dr. Roe, Cavan.

its appearance within the space of ten days or a fortnight thereafter.

The causes which occasioned it to spread were the same in Ulster, as in the other provinces. The cold and humidity of the seasons producing a failure of the necessities of life,—food and fuel, compelled the poor classes to move from one place to another, or to crowd into small and badly ventilated apartments, and thus to disseminate contagion. The want of fuel, owing to the wet of that part of the year in which turf is collected, was also a powerful cause of disease. Dr. Atkinson of Armagh remarks, that the rainy season of 1816, and the great scarcity and bad quality of provisions forced into towns, where they were assisted with fuel and provisions, many of the poor orders who often carried with them children ill of the confluent small-pox and measles and even of fever, for the purpose of exciting pity and obtaining relief, and these appear to have been the chief causes of disease, which was at first confined entirely to the poor. So great was the want of fuel, that in some parts of the province, for weeks successively, the clothes of the poor were scarcely ever dry,* and this deficiency of the means of obtaining warmth, dry clothing, and heat for culinary uses, seems to have been general. In the city of Derry its origin was ascribed to the resort to the town of the poor of the surrounding district in search of the means of subsistence, as well as to the practice of congregating in filthy and neglected cabins.† That fever was extended by communication of the sick with the healthy at public meetings, is highly probable. In some parts of the country, patients asserted that they had been in good health

* See report of Dr. Clarke, p. 114 of Vol. 2.

† Dr. Maginniss, Derry.

previous to their going to some public assembly, and dated their illness from that time.*

That the small pox was very prevalent throughout Ulster has been already mentioned; we believe it to be well established, that the effluvia of the confluent small-pox sometimes give rise to fever, and may have added to the sources of fever in Ulster, and the remark made by the late Dr. Willan on this subject, has been confirmed by the observation of one of the Editors.† Nor should it be omitted, that the food of the poor was of bad quality: the greater part of the wheat was unfit for the manufacture of flour, and was ground into meal of the worst kind. The potatoes and oats were also much injured.

Want of ventilation in the dwellings of the poor, an evil necessarily connected with deficiency of fuel, was in many instances assigned as a cause of fever. That failure of employment also, which in most parts of Ireland contributed to aggravate the miserable consequences of scarcity, operated either directly or indirectly as a cause of fever in Ulster has been proved by many facts. Of these we may select two. In the neighbourhood of Kilmore, where the labouring classes were almost constantly employed and supplied with wholesome provisions, at a very moderate price, fever was but little prevalent; and in the comfortable and clean cottages around Farnham, the same comparative exemption from the disease was observed, whilst it raged with great severity amongst those who were not so fortunately circumstanced. This account was given previous to June 1818. Dr. Rogan, in his valuable work, enumerates other causes of distress at this time, namely, the reduction of our army establishment; the

* Dr. Murray, Glanavy.

† See Willan's reports on the diseases of London.

fall in the price of cattle and butter which was so great, that the inhabitants of the mountains were reduced from comfortable circumstances to poverty ; but above all, the depression of the linen trade, which immediately followed the conclusion of peace, and which was attended by a reduction in the wages of the weaver to one-half of their former amount.*

The influence of contagion in disseminating disease was evinced by the general extension of fever through poor families, and by the effects so generally proceeding from mendicity. Thus the paupers from the counties of Derry, Tyrone, and Donegal, who resorted in great numbers to the town of Antrim to obtain sustenance or employment, were supposed to have greatly contributed to the spread of disease.† Dr. Roe of Cavan thinks, “ it often lurked in the system for a considerable time, and was then called into action by fatigue, change of life or some strong impression.”

Its mode of attack in Ulster was nearly the same as in Munster and Connaught. Of the numerous facts communicated to us on this subject, we shall select the most striking. The brain was the organ chiefly affected. Such was the case at Armagh, and more particularly among the upper classes, or those who lived much on animal food.‡ At Cavan it was remarked that, where the disease came on slowly, the patient for some days complaining of little else than languor, drowsiness, and debility, with sickness of stomach, and want of appetite, greater danger was to be apprehended than when the attack was more violent, and its nature more clearly indicated by the symptoms.§ At Antrim it was remarked that the brain

* See his work, p. 10.

† Mr. Bryson, Antrim.

‡ Dr. Barclay and Dr. Ryan, Armagh.

§ Dr. Roe.

seemed to be the organ chiefly affected. Flushing of face, headach, and inflamed eyes, were among the first symptoms, and these were usually followed by wakefulness and delirium.* In several parts of the province fever declined during the winter of 1817, but in the following spring it again prevailed in a milder form. This occurred at Downpatrick† and at Glanavy. At Belfast it was observed to decline in October 1818, and in most parts of the province, except at Armagh, where, having closed the fever hospital, the inhabitants were obliged again to open it.‡ Hence we may infer that fever generally declined during the winter, but increased on the approach of summer. Pectoral symptoms, which had not hitherto been common, then became very frequent, especially in the young and robust.||

Petechial eruptions in this province, as in Munster and Conaught, were very generally observed, as reported by Dr. Atkinson and Dr. Ryan of Armagh. At Ballyslannon they occurred invariably.§ At Downpatrick the motley appearance of the skin was more frequent than genuine petechiæ. At Monaghan a petechial eruption was almost universal; it occurred early. In the latter stages of fever an eruption of pimples took place, which was considered a favourable symptom.¶ Dr. Atkinson of Armagh, in a letter dated Sept. 19th, 1817, thus describes the disease:—"In general the pulse is very feeble and low from the beginning, with great prostration of strength. The head is, in most instances, more confused and giddy than painful, and fever is not in general attended with delirium. The evacuations are very fetid, dark, and of a greenish colour, and sometimes black. The sick are very restless and desponding,

* Mr. Bryson. † Dr. Nevin

§ Mr. Crawford.

‡ Dr. Purdon. || Dr. Nevin.

¶ Dr. M'Dowel.

and I have seen instances where they appeared better in every respect, the tongue cleaner, and pulse more natural, and without any cause, sunk directly and died. A suppression of urine is very common, and I may say a fatal symptom, as I have seen three instances of it, and the patients all died. In one of these cases the water was drawn off with the catheter ten times; in another four. The urine is always very dark coloured." At Derry, this peculiarity was observed, that many appeared better about the fifth day, and then relapsed.*

When it commenced epidemically, the duration of fever in the sufferers appears to have been in general longer than ordinary. Thus, at Derry, previous to September 1817, a salutary termination seldom took place earlier than the 17th day. At Downpatrick, at this time, its most common duration was fourteen days.† At Monaghan, previous to September 1817, it seldom continued beyond the 17th day. At a later period of the epidemic, we have reason to believe that a fever of short duration was very general.

The number of those who died, compared with those attacked, was in Ulster very considerable. At Armagh, it was supposed to be the most destructive fever that had appeared during the last fifty years, and it was reported that more persons had died of fever during the year 1817 than during ten preceding years, taken collectively.‡ At that place it was observed to be most fatal to persons advanced in life, and to those who were corpulent. A similar observation was made at Monaghan, where the fatal termination generally occurred on the eleventh day.§ It was not, however, universally so fatal, even dur-

* Dr. Maginniss.

† Dr. Nevin.
§ Dr. McDowel.

‡ Dr. Atkinson.

ing its early periods. Thus, at Ballyshannon, very few of the poor, and scarcely any of the upper ranks, died. The following is an extract of a letter from Dr. Sheil of that place, to Dr. Perceval:—"Where the patients had enjoyed previous good health, little danger accompanied the disease; persons advanced in life, females who had been long nursing, the intemperate, the asthmatic, or those who had been subject to complaints of the stomach or liver, suffered severely; still the number of deaths, in proportion to the attacked, was not considerable." This, with other examples, might be adduced to show that fever was a more severe disease in the interior parts of the island than on the sea coast. As in other parts of Ireland, the disease was most fatal to persons in the higher ranks of life. At Armagh, so great was its severity, that all those persons of the upper ranks, who were attacked previous to September 28th, 1817, became its victims.¶

The morbid sequelæ were mortification of the toes and feet, and of the lower parts of the loins, as observed at Armagh and Antrim. Anasarca, severe rheumatic pains, and chronic diarrhœa;* mania occurred in a few cases at Armagh, as a consequence of fever, but disappeared in the course of a few weeks.† Many patients remained in a state of fatuity for months after the fever had left them. Relapses were not frequent at the commencement, but became so as the epidemic approached its termination. In Antrim, and its neighbourhood, an eruption similar to itch was very generally observed to attend the close of the fever.‡ Dropsical swellings not unfrequently succeeded recovery from fever, and a swelling of one leg was frequently observed at Downpatrick.§

The treatment in different parts of the province varied

¶ Dr. Ryan. * Dr. Roe. † Dr. Atkinson. ‡ Mr. Bryson. § Dr. Nevil.

according to the nature and urgency of the symptoms. At Armagh, it consisted in the topical abstraction of blood, when the use of this remedy was indicated by local affections: blisters were also applied near to the part affected: when the heat of the body was increased, and the pulse strong, the application of cold water with a sponge was found refreshing and useful, and in almost every case relief was afforded by sponging the head with vinegar and water. When nausea and bad taste of mouth existed, an emetic gave relief, followed by the effervescent draught, combined with antimonial wine. In all cases purgative medicines were administered with advantage, especially calomel, but it was not found particularly useful where it affected the mouth, and in two or three instances of this kind, recovery was more tedious, and the patients more liable to relapse. When the fever was low, benefit was produced by camphor, Hoffman's anodyne liquor, and wine. Such is the account of the treatment, as given by Dr. Atkinson of Armagh. In other parts of Ulster a similar mode of treatment was followed. "When the stomach was at all affected," says Dr. Roe of Cavan, "and often when it was not so, I gave an emetic in the evening, sometimes a diaphoretic draught after it, and on the next day I commenced the use of purgatives, and whilst the belly continued at all full or tense, or the tongue foul, loaded, or black, the purgative plan was persisted in for several days in succession. In the latter stages, when debility was great, Dr. Roe found porter or ale the best cordials, and when there was much difficulty in getting any medicine taken, he added tincture of jalap to the porter; spirituous cordials seemed hurtful. Suppression or retention of urine, he remarks, were very unfavourable symptoms. The essential oil of turpentine seemed useful in one case of this kind." He adds, "When the inability of passing urine exists, I believe the only remedy is the catheter,

or the constant solicitation of the patient, by taking him out of bed, if possible, and supporting him whilst he makes the effort. In the advanced stages of the epidemic, Dr. Roe found that blood-letting in the early stages of fever was useful. In other parts of the province, as at Downpatrick, it was not employed as a general remedy.* The prophylactic means, so often mentioned in the course of this work, were very generally adopted in Ulster. Fever hospitals were established, to which the sick were removed. The dwellings of the poor were also washed and purified, and the clothing of those patients who were taken into hospitals, in many or most instances submitted to processes of purification. Fumigations of various kinds were also used. Such means were employed in the larger towns universally, but in some even of the smaller towns, as at Belturbet,† an hospital was established, and the sick removed thereto, whilst other preventive means were resorted to with decided benefit. The paupers were also badged, and all mendicants from a distance excluded from many of the towns and parishes. It would be injustice to the medical gentlemen of this province to omit observing, that in many places the physicians, as well as the county and military surgeons, gratuitously undertook the care of the sick poor, and that to their advice and personal exertions, the preventive system employed in Ulster owes much of its efficacy and success.

* Dr. Nevin.

† Dr. Williams.

SECTION III.—PART IV.

LEINSTER.

THE epidemic fever did not prevail in all parts of the province of Leinster with equal severity, or to the same extent. The numbers affected with fever were comparatively few, and the disease was unusually mild in some parts of Westmeath, particularly around Mullingar,* but there were parts even of this county, in which the disease must have produced great havoc. We learn from Mr. Reed of Killucan, that, in the latter part of 1817, and beginning of 1818, he discovered that in fully one out of every three houses he visited, some of the family had previously died, without being seen by any medical practitioner. In the northern and western parts of the King's County,† in Wexford,‡ and in that part of the county of Wicklow, which forms the sea coast, fever was infrequent and mild. In Leinster the country people generally suffered more than those who were resident in the towns: For example, the inhabitants of Arklow and

* Dr. R. Barlow of Mullingar.

† Dr. Doxy of Mountmellick.
Furlong of Enniscorthy.

‡ Dr. Lane of Wexford, and Dr.

Wicklow, Tullow and Newtownbarry, as we learn from Dr. Johnstone of Arklow, Drs. Smith and Goodison of Wicklow, and Dr. Robinson of Newtownbarry, suffered but little. Dr. Smith affirmed that the epidemic never reached Wicklow; and Dr. Goodison, that it never arrived at the same alarming height there that it did in other places. In Arklow the upper ranks escaped, and the mildness of the disease among the poor may be inferred from the returns of the fever hospital, in which, although the treatment was judicious, the accommodation was but indifferent. Of 274 persons admitted, between the months of January 1818 and July 1819 into the fever hospital at Arklow, only one patient died. Such was the case in the towns; whereas in the mountainous districts around Rathdrum, Hacketstown, and Carnew, the case was very different indeed. We learn from Mr. Clarke, late Surgeon to the 21st Fuziliers, now practising at Rathdrum, that one-half of the population suffered from fever while it was epidemic in that neighbourhood, and of those who were not removed from their own houses into the hospital, eight or ten died out of every hundred patients.

In most parts of Leinster fever became epidemical in 1817;* in the latter part of 1817, and the beginning and middle of 1818, the epidemic had attained its full maturity; in the beginning of 1819 it was sensibly declining, and in the autumn of that year it was every where reduced within its usual limits. It was observable in Leinster, as well as elsewhere, that disease advanced irregularly, sometimes apparently abating, and then gaining new strength, till at last it attained its height; and in like manner it declined irregularly, the flame, as it were, blazing a little before it became more faint. In

* See p. 56, 57. and 58,

this province also, wherever the epidemic appeared early, it subsided early, and vice versa.

The spontaneous origin of fever is not suggested in any of the numerous and valuable communications, which we have obtained from physicians in Leinster; nor, if the disease be contagious, of which no one expressed a doubt, did it seem necessary to have recourse to that hypothesis to explain its diffusion, for the disease existed in most parts of the province before it became epidemical, and every facility for the spread of infection was afforded. We endeavoured to obtain information relative to the duration of the latent period of the disease, conceiving that this might throw light upon its generation or extension, and we beg to lay before the reader the following facts, being the most important we were able to collect:—

It may be thought that the Medical Inspectors in Dublin, appointed by the Governors of Fever Hospitals, several of whom were Physicians of great ability, could have supplied us with information on this subject. Unexceptionable facts, however, were not easily procured in Dublin. Many parts of the city were infected, as one of the Inspectors remarked to us, before their appointment took place; and hence, when fever got into a house, it was often impossible to form a probable conjecture as to the specific source of the contagion, which attacked all after the first or second victim.

A child was admitted into a charitable institution in the early period of the epidemic, upon being discharged from one of the fever hospitals in Dublin, who brought with her a small bundle of clothes, which had not been disinfected. This bundle was opened by a woman, resident in the institution, who perceived an exceedingly disagreeable odour to issue from it; in a few minutes the

woman became ill, and her stomach sickened, which proved the beginning of a fever such as was prevalent: her's was the first case of the epidemic fever in the Institution.

In June 1819, as we learn from Dr. Hamilton, there were some cases of fever in the hospital of Gorey, which were attended with great debility following symptoms of determination to the head. An old woman, who had escaped the fever, between whom and the sick in hospital no direct communication could be traced, came to Dr. Hamilton's house, and knocked at the door, to get the key of the wine cupboard for the sick nurse, who had charge of the patients. Mrs. Hamilton happened to open the door, and the wind blowing strongly from the quarter in which the old woman stood, instantly perceived a strong earthy smell, but was neither afraid of fever, nor did it occur to her that she had any thing to apprehend from this smell. While the woman waited for the key, one of Dr. Hamilton's daughters came in from the garden, and passed at some distance from her, round one of the pillars of the porch, and also perceived an earthy smell, but not strongly, as the wind did not blow so directly upon her. Next day, both ladies were seized with symptoms of fever, the former to a very alarming extent; rapid pulse from the commencement, great determination to the head, and very experienced practitioners, who saw her during her illness, had but little hopes of her recovery. On the 14th day of her illness she was brought to bed insensible, and on the 15th had a crisis, and recovered. Miss Hamilton was never in danger during the fever with which she was affected.

In the Medical Report of the fever hospital in Cork-street, dated October 1st 1816, p. 16, it is related that one of the patients, by trade a tailor, was admitted on

the beginning of September 1818, who gave the following account of his illness : that he had lately been engaged to work in a house, where a blanket was given him to sit on, which, as he afterwards learned, had been the covering of some of the sick inmates in fever ; seated on this he continued to follow his business, until the fourth day, when he was attacked with fever.

A fact will be found in the Inspector's report on the state of disease in Leinster, p. 139, vol. 2, relative to the propagation of disease by infected clothes, of which the following are the particulars:—In the house in which the Limerick beggar first lodged, fever appeared within five days after she left it, and all the family took the disease in succession, within a day or two of each other. The two girls who attended the wake were affected within ten days, and the family, a mile and a half distant, where she lodged for one night, were affected in four days after she left them. Thus it would appear that the latent period of fever is sometimes very short, especially when the disease is contracted by exposure to the fomites arising from infected apparel.

The following circumstance, which occurred in Dublin, is related as bearing upon the latent period of fever, and as exemplifying the mode in which disease was diffused in the families of the poor of that city, where, from the crowded state of their dwellings, the spread of contagion seemed inevitable.—Jane Dillon was attacked on the 30th of March ; her's was the first case of fever which occurred in No. 130, Summer-hill ; in fact that house was uninhabited until a short time before she came to live in it. On the 8th day of her fever she was sent to the Whitworth Hospital ; before her removal she was frequently visited by Anne Cassidy, a woman who lived on the floor above her. Anne Cassidy was attacked on the

11th of April, six days after Dillon had been removed : here the latent period was at least six days, but as it is possible she might have been infected before the day on which Dillon was removed to hospital, the latent period may have been eight or nine days. Anne Cassidy was removed to hospital on the 15th, and on that day a child of her's became sick, and was removed with her. Nothing can be inferred from this child's case, as she never was separated from her mother. Thomas Cassidy, the husband of Anne, was attacked April 22d, and removed April 25th; his latent period was at least seven days, and might have been eight or nine. Two other persons in the family were afterwards taken ill, but the accounts kept of their cases are imperfect; it is uncertain whether they were infected directly from the bodies of the first patients, or by contagion, existing in a close room, with no change of bed clothes.

A servant girl left the house in which she lived, to attend her brother in a fever, and returning after he was well, remained 16 days free from sickness, and then took the fever. The family was one in the upper ranks of life, and there occurred no known opportunity of intermediate exposure to disease, and all her clothes were attentively washed before she returned to her service.

In the neighbourhood of Abbeyleix a fact occurred under the eye of Mr. Boxwell, surgeon to the dispensary, which shows a more protracted period between exposure to infection and the first symptoms of fever. One member of a large family became affected with the epidemic fever, and after some days of illness, was removed to the fever hospital, established at the expense of Lord de Vesci. The house in which he fell sick was whitewashed, and every precaution was used to prevent the disease from spreading; the remainder of the family continued well for five

weeks, and then, without their having been exposed in any other way to infection, two individuals more were affected with a fever of exactly the same kind.

Lastly, we have to add the following statement, which was made to us by Dr. Ferris of Portarlinton:—The introduction of the epidemic fever into that town was owing to a pedlar, who had the disease very severely, attended with petechiæ and black patches of the skin, but who finally recovered. No new case occurred for six weeks, and then several appeared immediately adjoining the house in which the pedlar lodged, and, until November following, the fever was confined to that quarter of the town, and almost altogether to the same side of the street, or rather narrow lane, and its progress might easily be traced from one house to another.

From these facts it would appear that the latent period of the disease varied from a few minutes to six weeks. The latent period, for any thing we know to the contrary, may sometimes have been much longer than six weeks, more particularly at the commencement of the epidemic; a friend, who, as Medical Inspector in Dublin, had paid much attention to this subject, and who is a man of accurate observation, considered the latent period to average from fourteen to twenty-one days.

It was the opinion of several physicians in Leinster, that contagion, however introduced, adhered to certain houses so pertinaciously as to resist all common means of purification. The physician who inspected the province of Leinster, while at Portarlinton, was informed by Dr. Harte, that several cabins were burnt in consequence of their having resisted all the usual means of *disinfection*: they continued, as it seemed, again and again to infect their inhabitants; a fact seeming to show that infection had

adhered to a house for six months, was related to the Medical Inspector while in Carlow.

It was also an opinion with some, that convalescents from fever retained the power of communicating the disease for a considerable time; nay, when health appeared restored, contagion was supposed to be given out from their bodies. Dr. Hamilton of Gorey affirmed, that "the body retained the power of communicating disease for a considerable time after the fever was over. Hospital dresses were worn by the patients in the fever hospital of Gorey, their own clothes were washed with care, and were not restored till they were discharged, yet such persons seemed frequently to have communicated fever to those who had previously escaped."

We are not of opinion that the time between exposure to contagion and the formation of the disease thereby caused, is a period of health: the nervous system was affected previous to any disorder of the circulating system. Thus a patient who lately died of a fever, and who caught the disease from his sister, was unusually irritable for some weeks before he died; during the time between his exposure to contagion, and the rigor which proved introductory of fever, he made many anxious inquiries relative to the management of fever hospitals, and the treatment of the patients, and expressed his belief that he would die of his sister's disease. Several instances have come to our knowledge wherein a disagreeable idea, or some anticipation of calamity or death has, for several weeks before the formation of a fatal fever, taken possession of the mind, in spite of every effort to banish it. In proof of a diseased state of the mind we may, upon the authority of a physician of this city of great respectability, relate the following anecdote: Mr. D——, a

professional gentleman who resided in the town of L—, at the time when fever was becoming epidemical, dreamt on a Thursday night, that in walking down the main street of the town a man accosted him thus, “D—, unless you leave this, you will be a dead man before another month is past.” On Friday night he had the same dream, and again on Saturday night. His friends now observed, that he was reserved and melancholy, and they made every effort in their power, by seldom leaving him alone, and by forming little parties for his amusement, to dissipate his melancholy, but to little purpose; for, during the ensuing fortnight, he more than once said to his wife, “God help you and your children, for you will not have me to provide for you much longer.” At the end of a fortnight he was attacked with the epidemic fever, and two days after seizure, he related his dream to his wife, at the same time adding, that he was convinced his disease would be fatal. He died on Saturday, being the fifteenth day of his fever, and the twenty-ninth from his third warning dream. The foregoing singular circumstance was not communicated by his wife to his physician till he was in a state of delirium, attended with every symptom of approaching death, otherwise that gentleman would have had him removed from the town of L——.

It was observed in this, as in the other provinces,* that children were in general first affected, and then the disorder was apt to be mistaken for a worm fever or some other disease to which children are liable, and its contagious nature was not discovered until the unsuspecting parents found themselves involved in the calamity. Dr. Heenan of Parsonstown observes, that mothers,

* See page 418.

with children at the breast, have, on being attacked with fever, sent their children to some house in the neighbourhood, and from such children he has seen whole families infected; and he adds, that he has in general traced the disease to the younger children, from whom it has been propagated to the adults of the family.

The commencement of the disease in such as had been infected, seemed frequently to depend upon accidental exposure to cold, wet or fatigue; to excess in the use of ardent spirits, dejection of mind, or to great dread of contagion. Thus many who were seized with fever imagined that the disease arose from their having inadvertently gone into a room, or even into a house in which a patient in fever lay; from their having passed an infected beggar on the road; or their having met a corpse on its way to the church-yard. Mendicants sometimes made use of their knowledge of the general alarm as a means of extorting alms; they asked money for a husband or child left at home in fever, which was often instantly given to escape the danger of their importunity. A miserable outcast of this description, giving way to disappointment and rage, when a boon was refused, has been known to throw a tattered cloak over an individual of the upper ranks, declaring at the same time, that it had been the only covering of her husband in fever during the preceding night, and praying to God that it might convey the disease under which he suffered to a hardened wretch, who, out of her abundance, would not contribute to save a family from perishing.

Physicians of experience paid particular attention to the circumstances under which the fever commenced, and to its first symptoms. A sudden attack of rigor, followed by great reaction, flushing, a very quick pulse and uni-

versal uneasiness, generally intimated that the disease would not extend beyond three, five, or seven days; if however the accession of the disease in this manner was followed by symptoms of inflammation of the brain or lungs, the patient was often, for some time, in the greatest danger, and when these symptoms subsided, or were subdued, the fever extended to a considerable length, and was long doubtful, although for the most part the event was favourable. Those patients whose minds had been much harassed previous to the attack of fever, seldom recovered. A great proportion of the fatal cases commenced almost insensibly, so that it was impossible to ascertain the day on which the complaint began; and this doubt, with respect to the period of its commencement, was always deserving of the greatest attention, as forming an unfavourable prognostic. Forebodings of evil were also suggested by profuse perspirations occurring in the early part of fever, without heat, anxiety, or quickness of the pulse being thereby abated; finally, there was an excessive flow of urine in many of those cases which terminated in death.

In the spring and summer months, particularly of 1817, the lungs were much affected, pain in the thorax, cough, accelerated respiration and bloody sputa were frequent symptoms; as such they are mentioned by Dr. Byron of Kells, Dr. Harte of Durrow, Dr. Doxy of Mountmellick, and Dr. Wilson of Newtown-Mount-Kennedy. Dr. Byron says, "that the affections of the lungs did not assume a determinate character, and yielded as the disease advanced." We shall transcribe passages descriptive of the disease in some of these places, partly to show the correspondence between many of the accounts which we received, and partly to shew that fever in these places followed the same course that it did in some of the Dublin hospitals. "At Newtown-Mount-

Kennedy, the part first attacked was the lungs, every symptom, except the pulse, denoting inflammation of the chest; pain was not confined to a particular spot, as in pleuritis; the patient had intervals of ease, the pain often extending, and with increased violence. This state lasted some days, and then the brain became affected; the vessels of the conjunctiva were much distended, the face was flushed,—symptoms which were quickly followed by coma, and subsultus tendinum.” At Durrow, “the principal organs affected were the brain and lungs. In many cases the disease was ushered in with pneumonic symptoms, which were soon allayed by blood-letting and blisters; the symptoms of cerebral excitement were headach, flushing of the face and eyes, which occurred pretty early in the disease, and were soon followed by delirium, which continued all through, even in what were termed mild cases, frequently with subsultus, and sometimes with coma; the delirium very often came on before the pneumonic symptoms subsided. Few instances occurred of the abdominal viscera being affected.” “In Mountmellick the affection of the lungs existed from the beginning, and abated as the disease advanced; the brain was not invariably affected early in the disease; delirium generally took place in the advance of the disease; the affection of the brain invariably appeared upon the subsidence of the pulmonic affection, and ended in sleep.”

As the season advanced, and the weather became warmer, the head and abdomen were more frequently affected than the head and lungs. By the concurrent testimony of all our correspondents, the brain was the organ chiefly engaged during the greater part of the epidemic. Dr. Brown of Navan, says, that the brain was affected in almost every case. Headach existed from the beginning of the disease, flushing followed, and then, in

many instances, inflamed eyes, watchfulness, delirium, which was often of a violent nature, set in about the end of the first week, occurring first in the night, and then uninterruptedly: these symptoms always ended in stupor, frequently in deafness, and in the more severe cases in coma and subsultus tendinum: in several places these symptoms were attended with tension and tenderness of the abdomen* and right hypochondrium, which were followed by a tympanitic state of the abdomen, with retention, and sometimes suppression of urine, and as the fever advanced, the evacuations from the bowels became of a dark and fetid kind.

The disease was regular, and remarkably mild in a great majority of those† among the lower orders who were affected with it. Near Trim we learn that very few who enjoyed previous good health died, although the poor received very little medical assistance. It was however observable, that in feeble and worn out constitutions, in such as had undergone great distress of mind or body, as had previously laboured under any organic disease, or had lain neglected in the first stages of the fever, collapse sometimes took place on the 3d or 4th day, with that extreme torpor of the mind, which is often characteristic of genuine typhus. In such cases purple extremities, vibices, gangrene over the trochanter or sacrum, of the nose, or of the lower extremities, sometimes took place, and in such also delirium set in very early, ending in coma. It may not be misplaced here to observe, that the purple extremities above mentioned, which were frequently remarked in hospital during the existence of epidemic fever, (and which ought to be distinguished from a gangrenous state of the extremities) have of late almost totally disappeared.

* Dr. Eorthwick of Kilkenny.

† Dr. Bolton of Naas.

The frequency of petechiæ, not unlike fleabites, was remarked by most of our correspondents; they were observed by one physician in seven cases out of ten;* by some they were represented as more general than they had known them on any former occasion;† by others as universal.‡ They appeared early on the 3d, 4th, or 5th day, continued visible for four or five days, and were often remarked in the mildest cases, not being connected with any particular train of symptoms, many who were affected with petechiæ passing through the disease more easily than those whose skin was clear. In one week in September 1817, Dr. Stone observed petechiæ of a deep purple colour in three individuals, whose illness was not sufficient to prevent their being occupied with their ordinary pursuits. The same gentleman relates, that during the prevalence of the epidemic, the children of a populous part of the neighbourhood of Bagenal's town were attacked with measles, and such as were exposed to the contagion of fever, and took it before the catarrhal symptoms had subsided, generally sunk under a putrid pneumonia. Some of the cutaneous eruptions, which are generally classed with petechiæ, were concomitants of the worst cases of the fever: such were the measly rash, and more especially dun diffused patches, which marbled the whole surface of the body.

A considerable variety in the form of crisis was observable; the most general crisis seems to have been by perspiration, sometimes preceded by rigor. In many cases the disease ended in a long quiet sleep, with soft skin. In many it ended in free perspiration; in most sleep and perspiration occurred at the same time; in many there was a cloud and copious sediment in the urine; in some, diarrhœa appeared critical; in some, a

* Dr. Ryan of Stradbally.

† Dr. Shegoe.

‡ Dr. Stone.

pustular eruption round the mouth, or on and below the ears; and in some, several of these efforts of the constitution were observable about the same time. In many the fever terminated without an evident crisis, the symptoms gradually subsiding. "It sometimes," says Dr. Johnston of Athy, "subsided without any apparent crisis, the patients falling into a sound sleep, out of which they awoke refreshed, and free from fever. Bleeding from the nose was not unfrequently followed by an alleviation of symptoms, but we believe it was rarely critical.

In the summer and autumn of 1818 the skin was of a deep yellow colour, and other symptoms showed particular disturbance in the liver and intestinal canal,—tension and tenderness of the upper regions of the abdomen, with irritability of the stomach, belonged to many of the cases, symptoms which sometimes ended in obstinate dysentery. There were four wards in the Whitworth Hospital, House of Industry, set apart for patients in dysentery, in which many individuals died of that disease. In Kilkenny also, according to Mr. Pack, dysentery was a frequent and fatal disease.*

In the upper ranks, among whom the disease was very often fatal,† there was frequently but little correspondence between the symptoms, and this irregularity or *ataria* belonged to the most dangerous cases of the disease. Persons in this class of society, more especially if they had passed their 30th year, who had been accustomed to live fully and luxuriously, were liable to a fatal form of the disease, which, to the inexperienced, was often very de-

* See also Dr. Ryan's report, p. 398.

† In Drogheda it was stated by Dr. Fairtlough that, while fever was an epidemic among the poor, it was not more frequent, but much more fatal than usual among the upper ranks.

ceptive; the intellect was clear, the manner rather hurried, but otherwise natural; the patients declared themselves without pain or uneasiness, unless what arose from great weakness, which they were astonished at, as so little seemed to themselves to ail them; and this at a time when their skin felt greasy, and was covered with dun petechiæ, when their eyes were glassy, their countenance somewhat suffused, and their breathing quick; such patients were very liable to convulsions, in which case death (which in the upper ranks frequently took place on the 11th day) was seldom distant. In the form of fever, which we have briefly sketched, it is worthy of notice that the pulse was sometimes quick, sometimes by no means alarmingly so; the tongue was sometimes loaded and crusted, sometimes clean and moist; subsultus tendinum were sometimes present, sometimes absent. In the severe cases, attended with anomalous symptoms, absence of thirst was remarked, where the temperature of the surface was low.

When the epidemic was subsiding in 1819, a good many cases occurred also in the upper ranks, in which miliary vesications appeared. This symptom, which was unconnected with any peculiarity in the treatment, always rendered the case more uncertain, in so much that, when the "white miliary eruption" appears, the physicians of this city generally prognosticate a disease uncertain in duration, and doubtful in event, even when all things besides seem favourable.

About the same period, in the hospitals of Dublin, a cutaneous affection, not unlike the itch, frequently occurred among the convalescents from fever, and we believe generally after fevers of short duration; it is at least certain, that it was at the time when fever so often did not extend beyond the fifth and seventh day, that this eruption was most remarkable. A similar eruption was very prevalent about the decline of the epidemic of 1801.

During the late epidemic this eruption frequently disappeared spontaneously.

To the duration of the disease in Leinster the same observations, which have already been made in the medical history of the epidemic in the other provinces, are strictly applicable.

Relapses in the end of 1817 were unusual. At Kilkenny, in the autumn of that year, Dr. Borthwick says, they were rare indeed. As the year 1818 advanced they became frequent. Dr. Heenan of Parsonstown remarks, and his remark is of general application, that they were "frequent at the period the disease was mildest, namely, during the months of June, July, and August 1818." About this period the disease, undergoing a change in duration, very generally did not exceed five or seven days.* From the *five day fever*, as it was called, the patient often relapsed two or three times; indeed, so early as the beginning of May 1818, this shortening of the disease, and tendency to relapse, which continued till the epidemic exhausted itself, was observed at Duushaglin, in the county of Meath, by Dr. Corbally,† at which time we learn from that gentleman, that although fully a fifth part of the population of the neighbourhood was, or had been affected, yet fever was more general than at any former period, which seems to confirm an opinion prevalent among the poor themselves, that the short fevers were the most infectious.‡ At Tullamore, Mr. Peirse reports, that the short fevers were first observed in the latter end of the summer of 1818. In Bal-

* See the medical history of Munster.

† A tendency to relapse was noticed at this time at Stradbally, Arklow, and other places.

‡ See report of the state of fever in Leinster.

lymahon, in the county of Longford, according to Mr. Gibbons, the disease had become a five day fever, with repeated relapses in September. Dr. Reed of Carlow stated, that, in four cases out of five, the disease, in the beginning of 1819, was a five day fever. In the remaining fifth the case extended to the 17th or 21st day. As we learn from Dr. Jacob of Maryborough, the brain and abdomen continued to be the parts chiefly affected, at the period of the epidemic when the fevers were generally short.

In the spring of 1819 fever was not merely reduced within its usual limits; in some places it seemed extinguished; this was most remarkable in the northern part of the province, in some parts of the counties of Louth and Meath. In the town and neighbourhood of Slane, Dr. Fisher affirmed that there was not one case of fever in the latter end of March 1819, an exemption which had not taken place for years before.

From the prejudices which every where exist in the country parts of Ireland against an anatomical inquiry into the causes of death, we have not been able to obtain much information of this kind. The reader, however, will have less cause to regret our failure, as this subject has been diligently investigated, and the results given in the following works, *TRANSACTIONS of the ASSOCIATION of the College of PHYSICIANS*, vol. 2; in which volume, *The Report of the fever hospital Cork-street, for the year 1816, by Dr. Stoker*, p. 431, contains Mr. Kirby's remarks on this subject. *Report of the epidemic fever of 1817 and 1818, by Dr. Barker*, p. 574, contains an account of the appearance of the disease, given by Dr. Macartney, Professor of Anatomy in Trinity College. See also *Cases and Dissections, illustrative of disease of the brain, by Dr. Black of Newry*, p. 299. DUBLIN HOSPITAL

REPORTS, &c. contains a synoptical view of the dissections, made in the hospitals of the House of Industry, see vol. 2, p. 110, et seqq. CASES OF THE EPIDEMIC FEVER, BY DR. MILLS. This valuable paper contains the dissections which occurred to the author in his private practice.

The character of the disease was affected by the situation in which the patient was placed, and the principal modifying circumstance was probably the degree of ventilation thereby enjoyed. The mildness of the disease in the fever sheds or huts, which excluded the rain, but not the air, has been alluded to in various parts of this work. At Wexford, previously to the building of the present fever hospital, the patients were accommodated partly in a seemingly comfortable house, but in which, not being intended for an hospital, ventilation appeared unattainable, and partly in a shed which held twenty patients. This wooden shed rested on a garden wall, and had no property but thorough perflation. Yet, when a case in the house became severe, it was removed to the shed, from the physicians having ascertained that disease, in the latter, ran a milder course than in the former.

The frequency of gangrenous affections in the Kilkenny fever hospital, as mentioned in Dr. Ryan's report, p. 410, may have been connected with the defect of ventilation, which was remarked by the provincial Inspector.—See p. 150, vol. 2. In that hospital, none of the attendants escaped the fever but the physician, who was probably protected from its influence by a chronic pulmonary disease, under which he laboured during the time of his attendance.

A remarkable proof was afforded in Sir Patrick Dunn's Hospital of a ward, by the peculiarity of its construction, protecting the attendants upon the sick from the effects

of contagion. The ward alluded to is the fever ward for males, which extends the entire breadth of the left wing of the hospital, being 62 feet by 38. It is twenty feet high, and is subdivided by partitions of the height of nine feet into six apartments, two of which are 38 feet by 16, and the rest are each nine feet square; the latter contains, with great convenience, four beds each, and the former ten; but on occasions of necessity the square apartments have held five, and the oblong twelve beds, without inconvenience; the partition walls leave two passages, one leading from the door of the ward across its breadth, and another passing in the middle in its length: it is furnished with three large fire-places, two of which are in the oblong chambers, one on the north, and the other in the south side of the ward, and the third opposite the door, at the end of the passage first described: by this door the fever ward opens on the stair-case, which is walled, and communicates by gratings with the corridors of the basement and underground stories. The greater number of the windows of the ward are sixteen feet from the floor, and in the ceiling are placed two louvres, one toward either end, by means of which, and the fire-places, a brisk ventilation is kept up. During the late epidemic, when Sir Patrick Dun's Hospital, by agreement with Government, contained 100 patients in fever, the male ward was crowded, containing 44 patients, yet only one nurse was affected with fever; at the same period, the nurses in attendance upon the female patients, who were certainly not so much crowded together, were continually taking the complaint, and generally had it with severity. We are indebted to Dr. Stack, Physician in ordinary to the hospital, for a knowledge of this fact.

The epidemic seemed to have usurped the place of those diseases, which are most common at other times,

with the exception of small-pox, observed in many parts of this as well as of the other provinces, and dysentery, probably arising from the causes which were productive of fever. About the termination of the epidemic, puerperal fever arose in the Lying-in Hospital of Dublin, and was fatal to many of the patients. A circumstance, related to us by Mr. Creighton, Surgeon to the Foundling Hospital, would seem to prove that the connection between these fevers, which has often been suspected, actually exists. Two infants, whose mothers had died of puerperal fever in the Lying-in Hospital, were sent from that establishment to the Foundling Hospital, where, after being washed, and their clothes cleansed, they were given to two healthy nurses; these nurses both took typhus within a fortnight, and were sent to the fever hospital in Cork-street. Intermittent fevers did not occur in districts notoriously productive of ague so long as the epidemic lasted. During that period it is also worthy of notice, that there were no epidemic diseases among the lower animals. With respect to the sequelæ of the fever, the most remarkable were pulmonary consumption and dropsy; next to these in frequency were chronic rheumatism, mania, or amenia, paralysis, hysteria, and an affection resembling phlegmasia dolens, but not confined to the female sex, which was observed in the fever hospitals both of Dublin and Kilkeenny. Inflammation of the internal coats of the eye, as we learn from Mr. Hewson of this city, was also a frequent consequence of fever.

With some inconsiderable exceptions, the disease seems to have been judiciously treated by all those gentlemen, whose communications we have had the advantage of examining. As in most parts of Ireland, so in Leinster, the anti-phlogistic regimen was generally employed in the early stages of the disease, and cordial and stimulant remedies were given in its advanced stages, when such were required.

The following extract of a letter from Dr. Johnstone of Arklow, which contains a description of his practice, is introduced, not on account of the success which his hospital returns indicate, for we by no means consider such returns as criteria of judicious practice, but as a concise and perspicuous description of a method similar to that pursued by many of our correspondents in this province, with the exception of the passage which relates to the early exhibition of wine, a practice by no means common: "Respecting the mode of treatment, it varied," says Dr. Johnstone. "If called early, and no local affection occurred, I gave an emetic. But if the symptoms ran high, and severe pain in the head, and great thirst existed, I took blood from the arm freely, and began with tolerably large doses of calomel, thereby keeping the bowels very open: this medicine I continued occasionally, in fact it was my prime remedy. Practising chiefly among paupers, I was obliged early to have recourse to wine or punch, or porter, which I preferred to either, more particularly if made choice of by the patient. Of affusion I have not made trial in the hospital, but am in the habit of ordering ablution, and find it a very useful remedy. When nature endeavoured to throw off the illness by a gentle and general moisture, I assisted the effort by diaphoretics. If the delirium was violent, cloths dipped in cold vinegar and water were applied to the head, and a blister to the nape of the neck. Diluents were given freely, particularly tea, as I considered it a very eligible beverage. In cases of great malignancy, I prescribed the muriatic acid, with a small proportion of opium, with the utmost advantage, and I hold it as an efficacious remedy. With respect to the 11th query, I have already mentioned that I had recourse to blood-letting in the commencement of fever. I have only further to observe, that I never ordered a vein to be opened in the advanced stages of the disease, and I am of opinion that it would be prejudicial."

Many of our correspondents used blood-letting as an occasional remedy in fever, particularly when the lungs or head were much affected, some recommending venesection, others preferring local bleeding, the expectation being not so much to cut short the fever as to moderate the violence of local inflammations or congestions. A considerable number of our correspondents did not employ venesection in fever, and some professional gentlemen declared themselves hostile to its use after trial.* It is worthy of remark, however, that almost all who had been induced to give a full trial to moderate blood-letting in the early part of the fever, were liberal in its praise.

Blood-letting, in the latter stages of the fever, was seldom employed; we would by no means advocate its general adoption when the disease is far advanced, but we venture not to say that there may not be some cases to which it is applicable, as for example the following:† “I found a young man,” says our correspondent, “who had been eight or ten days in a very low state, with all the appearance of a low typhus. I ordered him to have some wine immediately, together with whatever appeared necessary at the time; but not being able to see him for a few days, and the mother of the young man not paying sufficient attention to my instructions, the wine was continued without intermission, the consequence of which was that his head became much affected, a serious determination having taken place thither; I saw immediately that no time was to be lost, and in defiance of a host of his friends, who beset me, and told me that I was *murdering* him, I opened the temporal artery, and took blood away pretty freely. The vessel bled twice in the course of the evening, but not to any serious amount; the consequence

* Dr. Lane of Wexford. Dr. Shegoe.

† Related by Dr. Goodison of Wicklow.

was that he was convalescent next day." In the latter part of the following quotation blood-letting is recommended by Dr. Ryan in a combination of symptoms, to which it is not generally thought applicable:—"But in the pain of the head, which so commonly accompanies fever, the flushed countenance, turgid conjunctiva, vivid eye, delirium, the purple cast of complexion, and oppressed pulse, indicating a highly loaded state of the vessels of the brain, venesection bears no comparison in its results to the section of the temporal artery. The performance of this operation I have never had, in a single instance where I prescribed it, any cause to regret, but very frequently its neglect in an early period, in some of the cases sent to the fever hospital, was much to be lamented. It afforded immediate and sensible relief; the patients expressed their gratitude warmly for the benefit they received; the skin was cooled, the pulse rendered less frequent; pain of the head was mitigated or removed, and many who had passed their nights in a state of restless delirium, were restored to calm and refreshing sleep, and awoke free from distress after its employment. I recollect one instance amongst many of its happy effects:—A young man, an apothecary, whom I had been called upon to visit in typhous fever, had passed several days in a state of maniacal delirium, attended with complete loss of rest. His afflictions were considerably heightened by the warm atmosphere of a small apartment, to which he was confined, loaded with bed clothes, and scrupulously excluded from the benefit of cool air; his mental irritation was not a little augmented by the restraint imposed on him by a pair of stout guards placed over him. I directed his room to be freely ventilated, and immediately opened the temporal artery: when a few ounces of blood had been drawn, he expressed great satisfaction, hoped, as he was so much relieved at that side of his head that, I would open the other artery, which was done accord-

ing to his desire. He became immediately composed, passed several hours in calm sleep, and speedily recovered. In the purple countenance, turgid eye, oppressed pulse, hurried respiration, and in that mottled appearance of the limbs, indicating an irregularly balanced circulation, and loaded state of the vessels of the brain, the loss of blood from the temporal artery was frequently followed by consequences equally propitious; the pulse became developed, respiration free, the countenance lost the purple, and assumed its natural aspect, and the circulation was restored to its proper equilibrium. I thought it not unfrequently had the effect of checking the approach to gangrene, which the limbs sometimes exhibited for several days previous to its appearance, and which seemed to arise from impeded circulation, produced by the loaded state of the vessels of the brain. This operation is, I fear, too often neglected from its supposed difficulty, but it is one of easy accomplishment, readily performed by any apothecary in the habit of employing it. When the artery is opened obliquely in any of its branches about the temple; or as it passes over the zygomatic arch before the ear, any quantity of blood required can be readily obtained. Should the discharge proceed too slowly, a smart fillip with the finger on the artery, below the orifice, quickens its action, and promotes a free discharge. Should there be any difficulty in stopping the effusion of blood by the ordinary means, it may be readily effected by hooking up the artery through the wound, and dividing it completely across, after which it immediately retracts, and a stop is put to the further loss of blood."

We are not, however, to conclude that those advantages, which have been obtained from blood-letting in hospital, or among the poor, are to be expected in an equal degree from that remedy, when employed in fever,

as occurring in the upper ranks. Thus, for instance, in the form of disease, described at p. 484-5, we should consider blood-letting as a very doubtful measure; under such circumstances we have seen it at first improve the appearance by removing the suffusion of the face and eyes; but while this change took place, the pulse, in several instances, has become more frequent and feeble, and death has soon after followed.

One feature seems honourably to have distinguished the practice of the physicians of this province, as of most other parts of Ireland, namely, that the specific symptoms, rather than the name of the disease, were considered. Dr. Maharg of Carlow, who thought that venesection was seldom necessary, tells us that the disease among the poor almost invariably yielded to brisk purgatives, the antiphlogistic regimen, and refrigerant diaphoretics. But it appears that he was ready with much more decisive measures when the patients safety required them, as the following cases will testify:—

“Early in December last I visited the clerk of a gentleman in this vicinity. He was naturally of a sanguine temperament, ruddy complexion, and very plethoric. I found him, on the 3d day of continued fever, sitting close by a fire, labouring under rigors, headach, sighing, pains of the back and limbs, anorexia, coldness of the extremities, pulse 130, and feeble, with a pallid and remarkably collapsed countenance, and some tendency to delirium. Referring his case to what Dr. Armstrong calls congestive typhus, I ordered him into a warm bath, and immediately after to lose 12oz. of blood from the arm, and to take, every third hour, $2\frac{1}{2}$ gr. of calomel, and 2 gr. of James’s powder. By the time that he had taken 30 gr. of the former, and 24 gr. of the latter,

(which purged him considerably) all the febrile symptoms had abated, and in a few days he was well.

“ On the 29th December I visited the eldest daughter, æt. 14, of the gentleman, whose clerk’s case has just been related. She had been two or three weeks affected with whooping cough, which prevented her father (supposing it only a temporary aggravation of that complaint) from sending for me, until she had been, as nearly as I could ascertain, about four days ill of common fever. She felt chilliness, headach, pain in the loins; had shrunk features; pulse upwards of 130, and feeble, and all the usual symptoms of pyrexia. I ordered a warm bath, and pretty large doses of calomel, jalap, and scammony, (she required frequent repetition of these to produce much effect on her bowels) and moderate doses of calomel and James’s powder were exhibited in the intervals. In three days considerable arterial reaction took place, and inflammation of the lungs and liver supervened, indicated by severe pain, difficult breathing, &c. She was copiously bled from the arm; next day venesection was repeated largely, followed in some hours by the application of leeches to the chest. The hæmorrhage from the leeches could not be restrained for many hours, and she lost a great deal of blood. Still the pain and laborious breathing continued excessive, notwithstanding the application of several blisters, saline mixtures, (common and ammoniated) antimonials, digitalis, nitre, &c. and she was unable, during three weeks, to deviate in the slightest degree from the erect posture. I may here observe, *en passant*, that, although she had taken a great quantity of calomel, from time to time, her mouth was never affected. Having lost all hope of relief, and conceiving her to be nearly *in articulo mortis*, I tried the plan so strongly recommended by Dr. Armstrong. I gave her, every third hour, a pill, containing opium $\frac{1}{2}$ gr. calomel $2\frac{1}{2}$ grs.

James's powder 2 grs. and camphor 1 gr. After the third pill the pain subsided, and was completely removed after the 8th.

Opium, which, in small and repeated doses, we conceive to be one of the most valuable remedies in the advanced stages of fever, particularly as it occurs in the upper ranks, and when the symptoms want their usual correspondence, seems to have been but little used; yet we find it has been given, in some cases, to an extent beyond what we should have conceived to be adviseable, and seemingly with benefit. In speaking of opium, Dr. Ryan observes, "I have been cautious in using it even in complete apyrexia, and have preferred waiting for the return of natural rest to its employment, unless the loss of rest should be very distressing. I shall, however, make an exception in its favour in the maniacal delirium, which sometimes occurs in the stage of excitement. When the patient is deprived completely of rest, a full dose of the tinct. opii, combined with a diaphoretic, to determine to the skin, after previous evacuation of blood from the temples, has been often speedily followed by calm and refreshing sleep, and the patient has frequently awoke perfectly composed. It has been equally serviceable in a more advanced stage of the disorder, approaching to apyrexia, in case of violent delirium: here a full dose of opium, combined with an antimonial, and without the previous evacuation of blood, has been followed by consequences not less beneficial. From 50 to 60 drops of the tincture, with 30 of antimonial wine, is the usual dose, and may be followed by 30 more of the tinct. opii, in an hour or two, if sleep has not succeeded it."

The reader who is anxious to obtain further information on the treatment of this fever, is referred to the va-

luable papers of Drs. Crampton,* Stoker,† O'Brien,‡ and Grattan.§ With regard to the exhibition of mineral acids, barm, and camphor mixture, which, by some physicians, are thought to possess considerable febrifuge powers, we willingly adopt the opinion of Dr. Grattan:—"The mineral acids, barm, and camphor mixture, are remedies which should not be regarded as inert in the treatment of malignant fevers. I admit they are to be considered subordinate to other remedies, and that their employment is by no means to supersede the employment of more active means. There are, however, many cases where they will be found most valuable, and hence to decry them, or entirely reject them, would deprive us of resources, which we may occasionally employ with advantage."

In this section the Editors have made little or no use of the communications which form the 2d section, for which reason, when an observation contained in that section is repeated in this, the reader may consider the repetition as resting upon independent testimony. They conceive it unnecessary to apologize for the frequent mention of the same fact in different parts of the work, as in no other way could points have been established of essen-

* Medical Report of the fever department in Steevens' Hospital, from September 1817 to August 1819.

† Medical Report of the House of Recovery and Fever Hospital in Cork-street, Dublin, for the year ending 4th Jan. 1817.

‡ Do. Do. for the year ending 4th Jan. 1820.

§ Do. Do. for the year ending 4th Jan. 1819.

tial importance in the history of this epidemic ; moreover, in describing the condition of the inhabitants in the different provinces, repetitions were unavoidable.

By a different disposition of their materials, the Editors could have produced a work of more lively interest, and of greater apparent originality, certainly with less trouble to themselves, but they feared that whatever might have been gained in these respects, would have been more than balanced by the loss which this book would have sustained as a work of authority and reference. They hope they have so far succeeded in their endeavours as, by means of the details contained in these volumes, to enable the reader in future times to compare the past events with those of a similar nature, in this and in other countries, to obtain a just estimate of the relative importance of the several operative causes of epidemic fever, and to furnish suggestions to such as take an active interest in the relief of suffering humanity.

The editors have refused admission in the 1st and 2d section to every thing which did not appear to them to rest upon unexceptionable testimony. In the second section they have admitted no paper which they considered of doubtful authority; but for the relations which are contained in that section, they do not hold themselves responsible. The writers of the several communications there given, are respectively accountable for their own statements.

During the epidemic, differences of opinion existed among medical men, in some parts of Ireland, respecting the best method of treating fever: the Editors have endeavoured to sum up with impartiality the evidence on this subject which has been laid before them, leaving the reader to draw his own conclusions. Differences of opi-

nion also existed among physicians, respecting the best means of preventing the spread of fever, and from the discussions thence arising, considerable warmth of feeling, in several places, was excited. As such discussions are attended with little advantage, the Editors gladly decline the task of recording them; yet they are persuaded, that wherever controversy arose, public benefit was the predominant consideration with all parties.

END OF VOL. I.

RB 27.5.1983

